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I.—*An account of some of the Petty States lying north of the Tenasserim¹ Provinces; drawn up from the Journals and Reports of D. RICHARDSON, Esq., Surgeon to the Commissioner of the Tenasserim Provinces. By E. A. BLUNDELL, Esq. Commissioner.*

[The small figures refer to the accompanying Plate, where the native words are correctly written in the Burman character.]

Of the numerous petty states north of the *Tenasserim* provinces, those only of *Zimmay*², *Labong*³ and *Lagon*⁴, on the east bank of the *Salween* and the slip of country on the west bank inhabited by a wild, barbarous, but independent tribe of mountaineers called Red Kayens⁵, have hitherto been visited by Europeans. Of the vast extent of country between the *Salween*⁶ and *Cambodia* rivers, we know little or nothing, though it is hoped the expected opening of an overland trade between the frontiers of *China* and the *Tenasserim* provinces will extend our knowledge of the intermediate country.

The town of *Zimmay* (or *Changmai*) is situated in Lat. 20 N. and Long. about 99 E. That of *Labong* is distant from *Zimmay* only 10 miles S. E.; *Lagon* about 50 S. E. from the same. The several states are named after these towns, but their respective boundaries are not well defined, and, together with those of *Moung-pay*⁷ and *Moung-nam*, appear to be the patrimony of one family. About fifty years ago, when the whole of this country was under the dominion of *Ava*⁸, seven brothers succeeded, with the assistance of *Siam*¹⁰, in throwing off the Burmese yoke, ejected them from the above named towns, and having been confirmed in the government of them by *Siam*, have continued tributary to that kingdom, and successfully resisted all the attempts of *Ava* to regain possession. The elder brother was invested with the title of Chow-tchee-Weet, or “ Lord

of Life," with the supreme authority over the others, and the title has descended to each brother successively alive till it reached the youngest, whom Dr. RICHARDSON found on his first and second visits, but who died at the advanced age of 73 years, during his third visit. It is now in abeyance in the family, and awaits the decision of the court of *Siam*.

Of the original inhabitants of this country but a very small portion now obtains,—perhaps not above one-third of the whole, owing to the great number that were carried off by the kings of *Ava* when they overran and subjected the country. The remainder consists chiefly of Burmese¹, Peguers¹² and Shans¹³, from the different states tributary to *Ava*; either refugees or slaves; for slavery exists in this country in its worst features. The unfortunate wretches are kidnapped and seized by the hill tribes on the west bank of the *Salween*, of whom some account will be given, and eagerly purchased from them at very low rates, by the people of this country. Dr. RICHARDSON was unable to form an opinion as to the amount of the population. He was told that the towns of *Zimmay*, *Lagon*, *Moung-pay* and *Moung-nam* contain each about 20,000 and *Labong* 14,000, but he thinks these numbers exaggerated.

In person the Shans bear a great resemblance to their Burmese and Siamese neighbours, though somewhat fairer. They are muscular, well formed, and healthy in their appearance: eyes moderately linear; nose small rather than flat; the mouth large, and disfigured by black teeth and gums, which they cherish as a beauty; the hair is long, straight, lank, and almost always black. They tatoo the lower limbs, but to less extent than the Burmese. Their dress consists of a cotton *putso* or cloth round the loins, generally blue, a blue cotton jacket reaching well over the hips, and a coarse red cotton turban; though many go uncovered. The dress of the chiefs is of the same description, but the materials are more costly,—Chinese crape or satin jackets, with gold or silver lace, the *putso* of silk. The women are fair and good-looking, and their dress more becoming than that of Burmese or Siamese,—not open in front as with the former, nor tucked up between the legs as with the latter. It is, however, fastened in the same way round the body without pin or string. Old and young have the bosoms bare, or but partially covered by a small scarf thrown round the shoulders. Many of the women are disfigured with goitre, but it seldom attains a large size. The people are a quiet, mild, good-humoured race, and not addicted to many vices. Opium smoking and gambling are scarcely known, and drunkenness is uncommon. The religion is that

of Buddh, and consequently their ceremonies and festivals differ in no material manner from those of the Burmese, which are now well known : indeed there is little other difference between the two races than that of dress and language ; which latter is a dialect of the Siamese with a distinct alphabet, bearing in the formation of the letters a great resemblance to the Burmese character. Of the resources of a country so thinly populated and so constantly subjugated to the devastating inroads of both Siamese and Burmese, according as one or the other of these powers held the sovereignty, it is not practicable to form an estimate. Speaking of the soil and cultivation, Dr. RICHARDSON says—"The soil in the low paddy and garden lands is a rich black loam apparently inexhaustible, in which the crops follow each other in uninterrupted succession. Cultivation is conducted with a good deal of care by irrigation and transplanting, and the return on good lands is about 120 and on inferior about 75 fold. The general seed-time is in July and August, and the harvest in December and January, though some descriptions of paddy are perfected in three months. Their plough closely resembles those used in the south of Scotland without the culture or ploughshare, and is often drawn by one buffalo. The principal articles of cultivation are the cauth-brier, or glutinous rice, cotton, maize, sugar-cane, tobacco, ground nut, chillies, several kinds of pulse, radishes, and turnips. Of grain, wheat, and other corn they have none. Pepper, cloves, and all the finer species of spices are unknown." Both the soil and climate seem well suited to the cultivation of Pernambuco cotton, which is now being introduced into the Tenasserim provinces ; and it is much to be regretted that the seed with which Dr. RICHARDSON was furnished on his last visit proved bad, as the people evinced great desire to cultivate so valuable an article. If the cultivation of South American cotton is found to answer in the Tenasserim provinces, of which great hopes are entertained, every exertion will be made to introduce it into the neighbouring countries.

Tin, iron, and lead ores appear to be abundant in the country, and some of them very rich, though it does not appear that the extraction of the metal is engaged in to any extent. Dr. R. was informed that the tin ore yields 80 per cent., and some iron ore that was shown him seemed equally rich. There are extensive teak forests in that part of the country immediately adjoining our provinces, but owing to the difficulty of bringing the timber down the *Salween* river in consequence of rocks and rapids, it is doubtful whether we shall be enabled to avail ourselves of that supply to any extent. The country abounds in cattle, to procure which originally, and subsequently to

ensure the supply, has been the object of Dr. R.'s several visits. An immense saving has been effected to Government in obtaining from thence sufficient cattle for provisioning the European troops on the coast, in lieu of procuring them from either Bengal or Madras.

The trade of the country is unimportant. An annual caravan visits it from the frontier provinces of China, bringing silks, satins, velvet and woollens, (the latter chiefly English,) cooking vessels, musk, and trifling articles of Chinese manufacture; and carrying away chiefly raw cotton, the produce of the country. It is expected that a portion of this caravan will this year extend their journey to *Maulamyne*¹⁴, and hopes are entertained that this will lead to annual visits in increasing numbers, and the opening of an important overland trade between China and our possessions on the Tenasserim coast. From *Maulamyne* are received British piece goods, chintzes, muslins, hardware, &c. in return for cattle, ivory, and a small quantity of stick-lack. With the hill tribe on the west bank of the *Salween* they exchange cattle, grain and betelnut (the latter from *Maulamyne* and *Bankok*), for slaves, tin, lead, and stick-lac.

It is evident from all that Dr. R. observed and reports, that both the chiefs and people of this country are not only desirous of continuing on the most friendly and intimate footing with us, but that they are really grateful for the immense benefit which our presence in their neighbourhood has conferred upon their country; and there is no doubt that should any future danger menace them, they would gladly place themselves under our protection, and see their country under our rule. Our occupation of the provinces has spread peace and happiness over a wide extent of country entirely independent of our authority, by putting an end to that ruthless and devastating system of warfare that had been for ages carried on between the Burmese and Siamese, whose object was not conquest, but solely to plunder and to carry off the defenceless people into irremediable slavery. On many occasions, as Dr. R. passed through the country, the common people and cultivators expressed to him how different was now their state to what it was in former years, when they scarce dared leave the walls of their towns to cultivate their lands; were obliged to be armed and constantly on the alert, and to leave their wives and families in the town; whereas now the country is in every respect equally secure, and they are enabled to follow their avocations without apprehensions of any kind.

The fact may be observed here, that our occupation of the Tenasserim provinces has also proved of incalculable benefit to a large portion of the population of Burmah themselves, as it is well known that the



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ROUTE MAP
of Dr. Richardson's Journeys
into the interior of the Tenasserim Provinces

Mon-sat
 Mon-fong
 Monpan
 Kimmay
 Labon
 Lagon
 Meinhaul
 Meinloongye
 Thauing
 Yeen byne R.
 Gyein R.
 Moulmein
 Martaban
 Houlmein
 Bagoda
 Amherst
 N. Lab.
 Mon Pay
 Yahaing
 Meenam R.
 Moyping R.
 Mayquane R.
 Salween R.
 Dr. Richardson's Route to Lagon
 Dr. Richardson's Route from Kimmay

24°
 23°
 22°
 21°
 20°
 19°
 18°
 17°
 97°
 98°
 99°
 100°

authorities in that country in our immediate neighbourhood,—Rangoon for instance,—have found themselves obliged to modify their exactions and oppressions, and to govern in a better spirit of justice and humanity, being well aware that the people have a refuge to fly to should they be driven to desperation.

The following extracts from Dr. RICHARDSON'S Journal will show the route travelled by him, and give an account of his reception by the chiefs whom he visited.

Dr. R. left *Maulamyne* on 11th December, 1829, and proceeded in boats up the Salween river for about 100 miles, and landed on the 14th on the east bank at the junction of a small stream called the *Yembyne*¹⁵. From hence he started on the 16th.

Journal.

“16th. Direction North, 70 East. Time, 3 hours; distance, 7 miles, 4 furlongs.

“8. 30. Proceeded along a good path practicable for bullocks, elephants, &c.

“9. 35. At the bottom of a short and rather deep descent crossed the *Yembyne* river, about 70 feet broad, running South, 45 East.—11. 40. Halted for the night on the banks of a small grassy lake: the path has been good and gently ascending; the jungle of bamboos and common jungle trees, thick and impenetrable, owing to the creepers; the march, though only seven miles, was made with difficulty, owing to the thickness of the jungle.

“17th. Direction North, 80 East. Time, 3 hours; distance, 8 miles.

“7. 30. Proceeded for some way along a path of the same character as yesterday.

“8. 15. Along a swampy path at the foot of a nearly perpendicular rock, but covered with verdure to the top.—8. 35. Another rock like the former, (called by the Careens *Lein Koso*;) path better.—8. 45. Crossed a small stream with steep banks at the site of a village deserted last year by the Careens (who remove annually to a new position). It is now overgrown with tall jungle.

“9. 30. Crossed the *Yembyne* river, wide 30, deep 3 or four feet; clear, rocky bed, swarming with fish. Halt for an hour.—10. 30. Path soft, along a valley winding amongst the hills with long grass and dwarf bamboos, much intersected by tracks of elephants, rhinoceros, and wild hog.

“10. 10. Again crossed the *Yembyne* river, wide 40 feet; course South, 20 East.

“11. 30. Halted on the eastern bank (course S., 65 East), where it is joined by a small stream called the *Mean Keun*¹⁶, running S. 50° west; the path nearly as yesterday; continued to ascend. Here we were joined by the Careens from the second villages, and dismissed those who accompanied us the last two marches.

“18th. Course North, 80 East; distance, 10 miles 4 furlongs.

“7. 30. Crossed the *Mean Keun* four times in 20 minutes, and proceeded along a rocky path through thick jungle.—8. 20. Crossed *Yea-ta-goon Keun*¹⁷ 20 feet wide; clear rocky bed.

“9. Came again to the banks of the *Yembyne* river.

“9. 10. Crossed a small stream falling into the last.

" 9. 30. Path soft through long grass surrounded by hills.

" 9. 40. Along the rocky bed of the *Yea-ta-goon-keun*, (waterfall stream.)

" 10. 30. Halted for half an hour.—11. Ascended with some difficulty the face of a broken rock 3 or 400 feet in height, over which the water of the *Yea-ta-goon* during the rains falls.—11. 30. Halted at the top of the waterfall, within sound of another which we heard tumbling from the hills above us to the eastward. The path to-day continued ascending and very bad, either soft with long grass, or rocky and uneven and extremely tortuous; but the Careens say it is the only pass through this part of the hills; that elephants, horses and bullocks formerly travelled it with loads, and that it was the route of the Burman army in 1799. Passed some of the large bamboos peculiar to this country, some catechu, and some of the tree with the sap of which the Careens poison their arrows. The rest of the jungle consisted of common jungle trees, immense creepers, and the common bamboos; tracks of elephants and wild hogs were numerous, but no marks of the rhinoceros, which is confined to the more level part of the country where grass is abundant.

" 19th. Direction North, 55 West. Time, 3 hours, 15 minutes; distance, 8 miles.

" 7. 30. Path along the stony bed of a stream.

" 7. 55. Skirt a ravine to the eastward.

" 8. 30. Crossed the *Keung Cank*¹⁸, or crooked stream, eight or ten times running in various directions.

" 9. Path a little better, but repeatedly crossed by the *Keung Cank*.

" 9. 45. Halted on the banks of the *Ween Wee*¹⁹, a small stream 15 or 20 feet wide, which falls into the *Thaung-Ein*²⁰ to the north-eastward. The path to-day was wet and bad; the jungle thick. No marks of inhabitants. Were joined in the evening by four Musulmans, who, together with seven who accompanied us, and five spoys, make the party amount to forty-two persons. Those who joined us to-day came by the *Gyne*²¹ road in nine days from *Maulamyne*, five by water to *Daggue*²², and four by land. They represented the road as bad, and hilly, only accessible to people unincumbered, but inhabited by Careens, five or six of whose villages they had passed.

" 20th. Direction North, 35 East. Time, 2 hours; distance, 4 miles.

" 7. 30. Crossed the *Ween Wee*, and ascended a rather steep hill and proceeded along an ascending path, which appears as if cut along the face of the hill on the bank of a ravine 300 or 350 feet deep, but clothed with small trees and verdure, as are all the hills, even those which are nearly perpendicular.

" 8. Descending along a similar path through a jungle of the large bamboos; paths particularly good.

" 9. 45. Descended along the rather steep bed of a stream, water ankle deep; path extremely bad.—9. 55. Came to the bank of the *Thaung-Ein*²³ (called by the Shans *May-pmoie*) river, wide 160 or 180 feet; moved a short way down the western bank, north 20 east, in the direction of its course, and crossed over to the eastern side by assistance of a boat and some bamboo rafts. I had been led by the guide to believe that we should be met here by some chiefs of the *Zimmay* country with elephants, &c. to assist us in transporting the baggage and presents, and to accelerate our movements towards their capital; they had, however, decamped eight or nine days before our arrival, and we took pos-

session of their sheds, which were the first human habitations we had seen since leaving the boats. The *Thaing-Ein* river is the old boundary between the Burman and Siamese countries, and is now the British boundary in this direction with the latter nation. It arises in this range of hills about eight or ten days' march in a south-easterly direction from this, about one day's march from the course of the *Gyne* river, and falls into the *Mein-lun-ghee*²⁴ (called by the Shans *Mun-neum*) two days west from this. The united streams fall into the *Thaluru*²⁵ some distance above a cataract in the latter river, which entirely cuts off all water communication with the country above it, and in which even timber is shattered to pieces that happens to get into it.

"21st. Felt the first effects of being in the Siamese country, in being obliged to halt till the road was cleared by the Careens. There was an evident desire on the part of the Careens, who met us here, to detain us for a day or two : they indeed privately declared their orders from Chow Ho Kio, the chief who was to have met us here, to do so. I, however, intimated my intention to proceed on the following day. We were here furnished with a pig, rice, and fowls.

"22nd. Direction North, 20 East. Time, 2 hours, 30 minutes ; distance, 6 miles, 2 furlongs.

"7 A. M. Proceeded along a good path through a patch of cultivated ground, where the Careens grow the hill rice, which is fine and small in the grain.

"7. 15. Ascended.—8. Crossed the *May-tha-woe*²⁶ river, wide 60 feet, clear stony bed ; abundance of fish.—8. 45. Path along the side of a hill of the same character as last march. On the top of a steep rocky hill above the road is perched the first Careen village we saw. The houses are entirely composed of bamboos ; the roof, with a very little slope, is made of two rows of split bamboos ; the first row with the concave side up, and their edges touching the second, with the convex side up, and their edges in the trough of the first, embracing the two contiguous edges. There were only three houses in the village, the inhabitants of which, old and young, might amount to forty or fifty people ; abundance of pigs, poultry, rice, &c. The people are dirty in their persons, and the skins of the men generally rough and scaly from exposure ;—they were much alarmed at our first approach, but we gradually gained their confidence.

12. 30. Continued our march, and at 1 halted on the side of the *May-tha-woe* (which we frequently crossed in the course of to-day's march) in thick jungle, within sound of a heavy fall of water.

"23rd. Direction North, 20 West. Time, 2 hours, 30 minutes ; distance, 5 miles, 6 furlongs.

"10 A. M. Having sent the coolies on three hours before, on account of the steepness of the hills : proceeded along a pretty good elephant path up the *steepest* hill we had yet ascended.—10. 45. A plantation of small seed cotton.

"11. 50. Reached the top of the ascent, from which we could count seven ridges of hills which we had crossed, running north, 20 east, to south, 20 west, but very irregular and broken in the descent.

"12. 5. Crossed the *Tsieu-dzoë*²⁷, (Elephant's tusk) rivulet, wide 15 or 20 feet.—12. 30. Halted on the banks of the stream at the foot of an extensive hill, covered with paddy stubble ; the Careens say they reap 30 or 40 folds ; and the rice is the finest I have ever seen, almost transparent, and when boiled beautifully white. The Careens of the hills have no cooking or eating apparatus ;

the rice and a sort of vegetable stew are boiled in a joint of the bamboo, and the latter served up in another split in form of a trough, round which they squat with their rice on any leaf they can find large enough; there is one shell spoon in the stew which serves the whole party. This day's march was one of much labour to the coolies: many of them were seven hours on the road.

"24th. Direction North, 20 West. Time, 3 hours, 15 minutes; distance, 7 miles.

"7. 30. Proceeded along a worse path than usual, over a succession of hills, many of them covered with paddy to the tops, which would indicate a very considerable Careen population. The greater part of the hills this day were of primitive sandstone.—11. 10. Halted by a small stream at the foot of a hill.

"25th. Direction North, 60 East. Time, 4 hours; distance 9 miles.

"7. 30. Ascended a rather steep hill along a path much the same as we had travelled for the last few days.—9. 25. Marched along the bed of a stream about knee deep; the bottom rocky and broken, the water extremely cold, and the sun hot and beating on our heads till 11. 30, when we halted on the banks of the *Moy-Gnow*²⁸ river, (wide 150 or 160 feet) running to the northward and falling into the *Mein-lunghi* about one day above where the *Thaung-Ein* falls into the same river. No marks of cultivation throughout this day's march. Passed a number of teak and *thet-tse* trees: of the former there is an extensive forest on the eastern bank of the *Moy-Gnow*, but the falls of the *Thalun* render it extremely difficult to transport it to the coast. The famous *thet-tse* varnish is merely the juice of the tree, which exudes from notches made in the bark into vessels placed to receive it, and is fit for use without further preparation. The tree has somewhat the appearance of the bastard teak. Saw also several small caroway trees in the jungle.—One o'clock. After a flourish of gongs in the jungle on the other side of the river, several Shans made their appearance, and a Burman of the party pushed over to our side of the river on a bamboo raft, and after ascertaining that I was not accompanied by an army, as had been reported by the Careens, communicated the fact to those on the other side: four petty chiefs, the heads of the party, then came over; they said they had been sent by the chief of *Zammy* to welcome me, and offered us their assistance for the rest of the march. They dispatched a letter to *Zammy* to announce our arrival, and begged us to remain one day on the present ground, assuring me that they had five elephants for my use. These elephants were a very seasonable relief, as the people were much knocked up, and the nature of the paths over steep hills or stony beds of small streams, had precluded the possibility of my riding for a single march.

"26th. Halted till some bamboo rafts were made to transport part of the baggage, which could not be carried on the elephants down the *Moy-Gnow*. I found that the chiefs who met me were part of the licensed robbers of *Labong*, and one of them (a Burman formerly captured in one of their predatory expeditions) was exceedingly anxious to excuse them for carrying off some of our people last year, as they were mistaken for Burmans. The Careens brought three pigs, some fowls, and rice, enough for the whole party: the Shans would not allow me to pay for them; hitherto every thing had been paid for that was brought to us.

"27th. Direction North, 30 West. Time, 5 hours, 30 minutes; distance, 15 miles.

"9. 30 A. M. Marched through a beautiful forest of teak and *thenghan* trees, on both banks of the river, which we crossed no less than nineteen times, occasionally following a path, more frequently without any, and the river in many places just fordable by the elephants; the whole of the baggage and most of the people were conveyed either on the elephants or on the bamboo rafts.—3 P. M. Halted on the east bank of the *Moy-Gnow*, having crossed one or two trifling hills in the course of the day, but the march was on the whole a slight descent, as we followed the course of the stream through the hills towards its mouth; the country was entirely uncultivated, and destitute of any sign of inhabitants. The wild elephants are much more scarce on this than on the western side of the *Moy-Gnow*, and even there much less numerous than on the British side of the *Thaung-Ein*. Tigers, deer, wild cows, &c. &c. are, however, numerous here. The Shans march without tents or coverings of any description, and make little huts of branches after each march in the same manner as the Bu mese.

"28th. Direction North, 30 West. Time, 4 hours, 15 minutes; distance, 12 miles.

"11 A. M. Crossed the river ten times, and proceeded along the banks through a country of the same character as yesterday, with scarcely a sign of a path, and learned that this road is never travelled except by the chiefs when collecting the tribute from the Careens, who, in the neighbourhood, are tributary to *Ponya*²⁹ or *Benya-tche*, the principal of the four little chiefs who came to meet me.—3. 15. Halted on the east bank of the river, about the same width as when we first came on its bank.

"29th. Direction North, 25 West. Time, 2 hours; distance, 6 miles.

"9 A. M. Continued our march along the banks of the *Moy-Gnow* till about 10 A. M. when we left it to the westward, and, crossing a rather steep hill, came at 11 o'clock on the banks of the *Mein-lun-ghee* (running to the southward; wide about 120 feet) a short way above where it is joined by the *Moy-Gnow*.—11 A. M. Crossed and halted. Saw numerous marks of elephants, deer, elk, and hog, in a soft part of the jungle to-day: the Shans say that they all eat that sort of mud, a kind of black stiff (probably saline) loam or rather clay;—killed a small animal to-day called by the Burmans *Poe*³⁰, and of which I do not recollect to have seen any description. The head is large and round, like an otter; the cutting teeth like a rat, and feet slightly webbed, somewhat resembling in appearance, though inferior in strength, to the moles. The fur exactly like that animal, but larger in the staple, and, I think, even finer—it is little larger than a common English mole, and burrows with great rapidity. There are two kinds of the same animal; the other differs in being much larger, and the hair coarse and harsh, like the bandicoot. I regret that the specimens I obtained were both lost.

"30th. Direction North, 30 West. Time, 4 hours; distance, 12 miles.

"10. 20. Continued to march along the *Mein-lun-ghee* in the same way as we had done along the *Moy-Gnow*. Crossed twelve times to-day. Its average breadth 130 or 140 feet, and depth about six feet. Its course continues amongst the hills, which are covered with teak and *that-tse* trees, as those of the *Moy-Gnow*.—At 2. 20 halted on the western bank of the river in a small patch of paddy in a plain of few miles extent; the first lowland paddy we have seen since leaving the *Thalween*, and the first of any cultivation since joined by the Shans.

"31st. Direction North, 20 West. Time, 4 hours, 10 minutes; distance, 12 miles.

" 8. 15. Marched to-day along a path better than any we have seen since crossing the *Moy-Gnow*.

" 11. Passed the village of *Bowtaa*³¹; 12 or 14 houses surrounded by a small patch of cultivation. Having crossed the *Mein-lung-hee* river four times to-day.—12. 25. Halted in a rather extensive patch of paddy stubble belonging to the village *Kapa*³², which is distant a mile and a half. Nearly the whole of the country between this and the village, which is in a small valley, has last year been under cultivation; all the rice in the country is of that glutinous description called by the Burmans *kanghuyeen*; the only hard rice that can be obtained is from the Careens, who left us to-day, and by whom we have been accompanied from the neighbourhood of one village to that of another since leaving the *Thalween*. They are a fair, well-limbed, athletic race, superior in appearance generally to the Talines and Burmans, but have been oppressed from time immemorial by Talines, Burmans, and Shans, whoever happened to have the ascendance. They have been obliged to furnish provisions, erect huts, cut the jungle from the edges of the path, and furnish guides to all travellers crossing the hills, the latter of which services they performed for us, and were much surprized at being paid for whatever they furnished us. They annually shift their habitation, and if they pitch upon a site near a path, it is immediately shut up. In addition to the other inhabitants of the jungle, we to-day saw marks of rabbits in considerable number.

" *January 1st.* Direction North, 20 West. Time, 4 hours, 50 minutes; distance, 14 miles.

" 9. 45. Proceeded along a good path through the paddy grounds of the village of *Kapa*, which we passed at 10. 20, consisting of about thirty or forty houses precisely in the Burman style, with one or two *Pungee*³³ houses, but no pagodas, &c.—11. 25. Passed the first pagoda we have seen since leaving *Thalween*, perfectly dilapidated. Near a small village saw 70 or 100 heads of good cattle in a rather extensive paddy field.—2. 35. After traversing a grassy plain intersected with belts of jungle, halted on the south bank of a small stream running to the westward and falling into the *Mein-lung-hee* river about quarter of a mile from the village of *Mein-lung-hee*. The path to-day was well marked, and there was more appearances of cultivation than we had before seen. We only crossed the *Mein-lung-hee* river three times. The rise of water in the rains, from the marks on the trees and banks in this river, cannot be less than 30 or 40 feet.

" The Shans being anxious to detain me on the road till an answer is received to the letter notifying my arrival, dispatched on the day I met them, I have consented, as I cannot well proceed without their assistance, to remain here two days."

The town, or rather village, of *Mein-lung-hee* at which Dr. R. arrived this day, is a collection of huts about 200 in number, scattered over an extensive plain of $3\frac{1}{2}$ or four miles in width, through which the river of the same name runs, having its rise about fifteen or twenty days' journey north, and pursuing a southerly course nearly parallel to the *Salween* till joined by the *Thoung-yeen*, when the united streams take a westerly course and enter the *Salween*. The town is under the jurisdiction of *Labong*³⁴, from whence a governor is appointed,

who levies contributions from the Kayen tribes in the neighbourhood, and is not scrupulous of occasionally extending his exactions into our portion of the country. Such is the wild life and timorous nature of these tribes that they submit to any one who appears invested with any authority, and it is difficult to induce them to visit *Maulamyne* with their complaints. *Mein-lun-ghee* being the first frontier station, is generally passed through by the traders of *Maulamyne*, and the Shan States also by those of the latter, who visit the country of the Red Kayens to purchase slaves. An effort was made to detain Dr. R. here, till an answer should be received from *Labong* regarding him; but on evincing a determination either to proceed or to return immediately to *Maulamyne*, elephants were furnished him, and he resumed his route on the 6th.

"6th. Direction South, 80 East. Time, 3 hours, 30 minutes; distance, 10 miles.

Six elephants were produced, and at 10. 20 we proceeded across the valley to the south-eastward.—11. 12. Commenced the ascent of the eastern hills, which is gradual but considerable.

"1. 15. Crossed the *Moy-Konie*³⁵ within quarter of a mile of a fall 60 or 80 feet to the S. W. of the road.

"1. 50. Halted on the banks of the *Moy-Konie*. Three of the elephants had four young; all born in captivity, which the Shans speak of as a thing of course: one of them had two, one about six years old, the other about 2½ or 3, still sucking. We here left all the little chiefs, but BENYA-CHI and the Burman who was taken prisoner twenty-five years ago. The road to-day (one of the principal routes to the *Careen Uee* (or Red Careens) country) was good, and the hills not very steep.

"7th. Direction South, 80 East. Time, 7 hours, 50 minutes; distance, 14 miles.

"8. 55. Steep ascent for two hours; great part of the way in ruts as deep as the elephants' backs worn by the mountain torrents.

"11. The mist on the hills and valley below us with a beautiful clear sun on it, had exactly the appearance of snow. A cold piercing wind from the eastward.—11. 15. Narrow road along the side of a hill which rises perhaps 150 or 160 feet above it, with a deep ravine below to the eastward.—12. Continued cold and chilly; left the elephant; steep descent for nearly an hour.—2. 45. Halted on the banks of the *May-lie*³⁶ (which falls into the *Mein-lun-ghee* about a day below the village) on a beautiful little plain surrounded by high hills, and bounded on the south-west by the stream 10 or 12 feet wide.

"The march to-day was almost a continued ascent; some of the hills very steep; the elephants frequently obliged to stop from fatigue; the paths tolerably good, evidently much frequented, and said to be cut by a Shan king³⁷ of great power, but evidently the tracts of elephants deepened by the torrents, in many places as deep as the backs of the elephants, not more than 18 inches wide at the bottom, and just clear of the howdahs at the top. The elephant from which I dismounted at 12 did not come to the ground till 4. 45, and was consequently

8 hours, 50 minutes on the road; some of them did not arrive till an hour afterwards from the difficulty of the ascent.

"8th. Direction North, 70 East. Time, 5 hours; distance, 12 miles.

"9. Continued to ascend the hills in a path rather better than that of yesterday; free from ruts.—10. 45. A good broad road along the side of the hills for an hour or two.—2. Halted on a small plain near the *Lowa* village of *Meing-lay-been*³⁹ containing five or six houses. The nights have gradually been becoming cooler as we ascended, and there are seven of the people ill with fever in consequence. The thermometer stood at 46° in the tent this morning at 8 A. M.

"The jungle plantain, thet-tse, bamboos, and pine in luxuriance, the latter forming the principal part of the jungle (or forest, for it has lost much of its density in these upland regions;) the creepers have almost disappeared, and the trees which form the crest of the hills to the westward may almost be counted in the afternoon, and might be traversed with little difficulty.—At 11. 15 to-day from the top of one of the high hills nothing could be seen as far as the eye could range but masses of hills rising one above another, covered with the same description of jungle to their summits, but no snow to be seen; if they can be said to be disposed at all into ranges, it is between S. S. E. and N. N. W. but they are extremely irregular and broken.

"9th. Direction North, 45 East. Time, 6 hours; distance, 10 miles.

"8. 55. Continued to ascend.—2. 30. Open forest, composed entirely of fir trees, tall, straight, and free from branches, to the height probably of 50 feet.

"2. 55. Halted at the *Lowa*³⁹ village of *Bo*⁴⁰, situated in an open plain in the forest, perhaps of 12 or 15 miles in length by five or six in breadth, as has been the case ever since leaving the *Mein-lun-ghee*. Our march has been a continued ascent, but gradually surmounting hills in succession, with several descents throughout; we are now said to occupy the highest and coldest halting place on the road; the fir has been the most numerous tree throughout the march, and the only one during the latter part of the day. The village of *Bo* consists of 60 or 80 houses: the people are all ironsmiths, and are exempted from all service but furnishing elephants' chains, cooking pots, spears, and other iron-ware to the Shans during war, or for military purposes; the iron ore is a red oxyd, and is found in immense masses in a hill to the north-westward less than one day's journey. It is brought to the village on elephants and melted in a simple furnace—yields nearly 50 per cent. of metal, soft and unfit for knives, ploughs, shears, &c. &c.; they have not the art of hardening it. The people are said to be rich, particularly in elephants, of which there are not less than sixty or seventy in the village.

"10th. Direction South, 65 East. Time, 5 hours, 40 minutes; distance, 14 miles.

"10 A. M. Ascended by a good path, much frequented throughout.—10. 20, descent.—1. 25. Saw the *May-ping*⁴¹ river, which falls into the sea at *Bankok*.—2. 20. Rocky steep, difficult descent.—3. 15. Crossed the *May-papie*⁴² river, knee deep, running easterly.—3. 40. Halted on the banks of the *May-papie* on a small grassy plain. Since 12. 20 we have been descending; the road though rocky has been pretty good, the air is decidedly milder, the pine has been gradually diminishing in numbers, and now not one is to be seen; the jungle just here is very close; the rocks throughout the latter part of the march old gray

sandstone, previous to which they have been granite with a large portion of felspar.

"11th. Direction North, 80 East. Time, 4 hours; distance, 12 miles.

"8. 40. Crossed the *May-papie*: good path and less precipitous.—11. 50. Crossed a small dry rivulet in which rubies of small value are found.—12. 5. Crossed the *May-Haut*⁴³ about knee deep, by which the paddy between this and the village is irrigated; nearly all the paddy in the plains of the valley of *May-ping* is cultivated in the same way.—12. 30. Halted at the village of *Maing-Haut*⁴⁴ (pronounced by the Burmans *Mein-Woot*) on the west bank of the *May-ping*, which runs to the southward and falls into the sea at *Bankok* after joining the *May-nam*⁴⁵.

"The march to-day continued to descend gradually, with a few trifling acclivities till 12; since which nearly level; the climate proportionately improved; the jungle has assumed the same character as on the other side of the hills, but more open.

"We are now fairly in the valley of the *May-ping*, and have the prospect for the next three or four days of seeing something of the level country, but the whole extent of the country between the *Thalween* and *May-ping*, with trifling exceptions (such as the little valley of the *Mein-lun-ghee*), is one succession of mountains; nearly all of the primitive series, principally gravel gneiss trap, lime and sandstone.

"We crossed the *May-papie* thirteen times to-day. The village *Maun-Haut* contains about sixteen houses of the most uncomfortable appearance; it is about 12 days from *Bankok*, with which the communication is frequent; the river here is about 200 yards across, and rather rapid; there are a number of palmyra, cocoanut and other fruit trees, both here and on the opposite side, where there is also a small village.

"The river here is a little wider than above or below the village, and just fordable by elephants; there are few fish in the river, and the people almost ignorant of the art of catching them. On endeavouring to procure boats as the easiest conveyance for the sick, I was not a little surprised when only one small canoe could be procured, in which only one of the worst cases could be sent forward.

"Remained here one day at the request of the persons who accompany me, in order to transmit intelligence to *Labong* of our approach.

"13th. Direction North, 20 East. Time, 5 hours; distance, 15 miles.

"9. 15. Road lies along the foot of the western hill; the river turns towards the eastern hills, which are distant about 20 miles.—11. 55. Crossed the *Nam-May-tcheem*⁴⁶, wide 100 yards; fordable by elephants.—1. 45. River 200 yards wide; full of shoals.—2. 5. Crossed the *May-ping*, and halted on its eastern bank in an open jungle, where a house⁴⁷ had been built for our reception. The road to-day has been nearly level and much frequented; the whole of the valley was inundated last year to a greater extent than is recollected by the oldest people, the paddy being nearly all destroyed, and the people obliged to take to the hills.

"14th. Direction North, 30 East. Time, 5 hours, 15 minutes; distance, 16 miles.

"8. 15. Road good level.—9. 55. Grassy plains.—1. 30. Crossed the *May-lie*⁴⁸, which falls in the *May-ping* four miles to the westward, wide about thirty or forty yards; halted on the eastern bank at the village of *Naung-long*⁴⁹.

"15th. Direction North, 60 East. Time, 7 hours; distance, 21 miles.

"8. 5. Road good, passable for bandies.—12. 20. Grassy plains intersected with jungle.—1. Western hills distant 20 miles; eastern hills, 4 miles; hills in sight to the northward.—1. 30. Paddy ground; numbers of buffaloes and black cattle.—2. 10. Halted between the village of *Bansan-kanoy*⁵⁰ and *Bansoupta*⁵¹ on the western bank of the *May-ta*⁵², a small stream, which falls into the *May-quang*⁵³ about a quarter of a mile from this, and from thence into the *May-ping* a quarter of a mile further to the south-west.

"The road to-day has been very good, much frequented and passable for a bullock cart; throughout marks of recent inundation are still very visible; oranges, pummaloes, pine apple, mangoe, palmyra, cocoanut, guavas, and other fruits are abundant; the first and the cocoanut are the only two now in season. The people have much improved in appearance; some of the women and children are nearly as fair as Europeans: many of the latter with light hair; the eyes are large and expressive, not at all like the Chinese; the nose, however, is small, like the Burman.

"They have had a report current here for the last month, that the English were coming up with 1,000 men, which has alarmed them a good deal. A letter has been dispatched to the people here to-day, telling them who I am, and ordering them to supply me with every thing I want; and the messenger begged I would remain here two or three days, till the road was made smooth and every thing ready for my reception at the capital. There is no way of avoiding their ridiculous delays."

Dr. R. was delayed here a few days, on the plea of preparing for his reception, and ascertaining from the astrologers a lucky day for his visit.

"20th. Direction North, 20 East. Time, 2 hours, 10 minutes; distance, 6 miles.

"10. 20. Started on horseback with ten or twelve elephants, each having a little either of my baggage or presents. At 11. 35 I was met by the second son-in-law of the *Tsobia*, the 3rd chief of the province, with fifty elephants. On each were mounted some of the numerous relations of the chiefs. They had brought a spare elephant for me, on which after complimentary speeches of welcome, I mounted, and we continued our march; the elephant on which I rode being last. In this procession we proceeded slowly towards the town, occasionally stopping to let the elephants pull the pine apple plants and plantain trees out of the gardens of the poor people, with whom the chiefs chatted on the most familiar terms.

"At 12. 30 we arrived at this spot, about a mile from the town, which they had fixed on for my encampment. My tent was already pitched in a little square of sheds, which they had built for the people. The chiefs remained with me about an hour, examined the muskets, talked of our soldiers, &c., and then took their leave. On inquiry I found there were two chiefs from *Lagon*, but none from *Zimmay* present. There is only a small portion of the walls of the fort visible from this, and none of the houses; and from the immense number of cocoanut and betelnut trees growing inside, it has more the appearance of a forest than a fort; the tops of two pagodas (one of which is gilt) are

visible over the tops of the trees ; the whole country is so covered with wood that not twenty houses are to be seen from this place : there are as many round the Fort as there are in it. It stands on the right bank of the *May-quang*⁵⁴, which is here about 30 feet wide and three deep at this season, though navigable for boats of some burthen during the rise of the river. The *May-quang* falls into the *May-ping* about half a mile from this (in the valley of which river both this town and *Zimmay* are situated), which pursues its course amongst the hills from this to within a few days of *Bankok*, where the hills terminate, and the country spreads into a plain populous and fertile. The valley varies in breadth from 10 or 12 miles to 60 or 80 ; the soil is a rich sandy loam, and from the beds of the river apparently of great depth ; the hills are of very considerable height, but no snow is visible from this, though the thermometer at 7 o'clock is seldom above 53°. The distance from this to the frontier towns of *China* is about 40 elephant marches (probably of 12 or 15 miles each) over the northern hills, and throughout that distance no snow is said to be encountered ; but to what other cause than snow the rise of the river can be attributed, I am ignorant ; as it is thought a heavy monsoon if there are three or four days of heavy rain in a month. The annual rise of the river is considerable, and last year was so excessive as to drive the whole population from its bank.

“ I have had no communication with any of the chiefs to-day, but a letter was sent to the person (a *Benya*) left here to provide any thing I might want, to keep the *Pungees* and the people from crowding round my tent, in consequence of a representation of mine yesterday. The bearer of the letter said it was the wish of the chief that I should be presented to-morrow, and begged that I would not bring any pocket pistols or any other hidden instrument of death ; I requested to know if I should wear any sword, as it was looked on by us as a mark of respect ; to which they also objected. The materials have this evening been brought to build me a small house.

“ 21st. At 12. 30 sixteen coolies with seven large silver, and nine copper calats (salvers), and a body of peons armed with spears, came out to carry the presents and conduct me to the presence of the chief.

“ The walls of the fort are formed of the red ferruginous porous stone common in *Burmah* at the bottom and the top of bricks of the most slender construction ; the sides of the streets for a few yards were lined with the common people, bearing muskets ; the shed (about quarter of a mile from the gate) in which the chief received me, was about 60 feet long and 20 wide, with three sheds at right angles built for the occasion, occupying the whole of the front, all of which were filled with people ; many of them near relations of the chief, and all in the crouching position common with the *Burmans* ; nearly all armed either with swords or muskets. The presents had already arrived, and were placed at the upper end of the centre shed. Having made a bow to the chief, I went immediately up to his seat (a small light chair) and presented the letter. I said that I was fortunate in being the first to open the road of friendship between the two countries, that it was the wish of the English Government that the merchants of each should be as uncontrolled in the territories of his neighbour as if they were in their own, &c. &c. He answered, he had long turned the eyes of friendship towards us ; that he was happy the gold and silver road had been opened ; that he hoped we should now be as one people, but that the presents must be

sent to the king of Siam, whose instructions would be taken. He wished to know what terms we were on with the Burmese. I said on terms of friendship: that after a war of two years they had sued for peace, and had obtained it—that they had nearly fulfilled the terms of the treaty, and that it was a principle of the English to forget an injury as soon as reparation was made. He said such was not the case with them; that they had been at war with the Burmans for ages, and that they killed or made slaves of them whenever they had it in their power—that the Burmans were equally inveterate. He then asked if I thought I could obtain an order from the Commissioner of *Maulamyne* for the Burmese to give up some tribes of Shans who had originally formed part of their kingdom of *Siam*. I said they were Burman subjects; and though we had conquered the greater part of their kingdom, it had been restored to them, and that we had now no control over them. He said that we had the *Thenieu*⁵⁵ or *Siriam* Shans with us; that they were originally from *Caung-Ghan*⁵⁶; and that if they wished to return to the land of their forefathers, he hoped that they would not be prevented. I said, that *they* were our subjects, and that if they wished to return, every facility for doing so would be afforded them.

“I thought this too favorable an opportunity to be missed, as I knew nearly every one in court was aware of my being acquainted with the circumstance of thirty or forty families of Burmans having been carried off by his people when coming to *Maulamyne* with a pass from Sir A. CAMPBELL. Seeing the person who carried them off in court; and a Mussulman merchant being with me who had represented the impropriety of their proceedings at the time, and fearing that an unfavorable construction might be put on my silence and a precedent for like enormities in future; knowing also that Major BURNEY had demanded and obtained from the court of *Siam* the liberation of several hundred people carried off by the Siamese from about *Mergui* and *Tenasserim*; I thought it my imperative duty, as the business had already in some degree been agitated, to endeavour to obtain their release, notwithstanding my instructions were not to interfere in the matter if it could be avoided. I therefore said, I hoped equal indulgence would be granted to the *Taline* people who had been taken with the British General's pass. He denied having seen the pass, though I believed at the time and have since heard that it was shewn him when several of the *Zimmay* and *Logan* chiefs were present—that their liberation was agitated and opposed by the *Zimmay* chiefs. The chief who carried them off being in court, and having been before pointed out to me, I immediately put it to him, and he acknowledged that the pass was still with him, but no one present understood English; that they were ignorant of its contents, but it should be brought to my tent in the evening. CHOW-TCHE-WEET said it should be made known at *Siam*, and that they must abide by the instructions from thence. I mentioned the circumstance of Major BURNEY's mission, and said I was sure it only required to be made known to his Siamese Majesty. The old chief was evidently much embarrassed during this part of the conversation; however, in case of any thing further being done towards their liberation, he cannot again plead ignorance. I repeated the hope that our intercourse might be free and unrestrained, and was again told that they must wait for instructions from *Siam*. I said that they might come to our settlement on the coast with the same freedom they would go to *Lagon* or *Zimmay*, and requested that PONYA-TCHE (who had

asked me to make the request) might be allowed to accompany me to *Maulamyne*, where he would see the facility with which business was carried on amongst us, and the advantage to both countries which would arise from an unrestrained trade. He said he was about to send him to *Bankok* with the presents I had brought in the course of next month. I hoped he would find it convenient to send some one else, and from the great number of chiefs I there saw round the hall, I thought it could easily be managed. I then took my leave, and in the evening *PONYA-TCHE* called on me, expressed himself much disappointed, and begged I would not give up the point. He was persuaded if I repeated the request he should be allowed to accompany me, and as he is one of the most intelligent persons I have met here, and the ultimate object of the Mission likely to be forwarded by his accompanying me, I promised I would do so. I asked him if there was any objection to my riding through the fort, &c. &c. He told me *CHOW-TCHE-WEET* had desired him to tell me I was at liberty to go where I pleased in the day, but that the gates of the fort were shut at night, and that it was rather expected I should call on some of the lesser chiefs, his numerous relations. I proposed calling to-morrow on his son-in-law, and one or two others of the chiefs who met me on the road and remained here the day I arrived."

The following are extracts from Dr. R.'s journal during his residence here, which are the most likely to interest the general reader.

"They had no idea that any European would attempt to cross the hills. I visited *CHOW HOUA*^{57*}; he is an intelligent man, about 40, of quiet and agreeable manners, to whom the chief government of the province is entrusted. The whole conversation was of the war with the Burmans, their hatred to whom is only exceeded by their dread, and their expressions of friendship for us proportioned to their idea of our power from having conquered the Burmese. *Thé Zimmay* chief who is nephew to *CHOU-TCHE-WEET* is by no means so friendly to us as the others, and there is some sparring between them now, about my being allowed to come here. On my return in the evening I found *CHOW-NI-MOI-KOIN* at my house with two of the first chief's wives and several musicians, waiting to entertain me with a natch and singing; the music was particularly pleasing. One man, a northern Shan, sang remarkably well, both as to taste and execution, much in the style of the Chinese, but much superior to any thing I ever heard in that country. I presented a cotton handkerchief and a Madras rupee to each, with which they were highly pleased.

"24th. Rode round the fort to-day, which is of an irregular form; the largest end towards the south. The east, west, and southern faces are nearly of the same length (probably 15 or 1600 feet); the north end not more than 1,000. The wall is from 15 to 23 feet high outside, and from 13 to 18 inside, and of the most flimsy possible structure, with four gates in the east and two in the south, two on the west, and one in the north face, surrounded on three sides by a wet ditch of 60 or 70 feet wide and in good repair. On the east side the river flows: at this season it is not more than knee-deep; at the gates are guards of half a dozen coolies without arms. On the eastern bank of the river opposite the fort are the remains of an old stockade of equal size with the fort, with brick angles and bastions. The houses are more numerous without than within the fort. On the western side is an extensive plain of rich

* The title of the heir-apparent to the chieftainship.

paddy ground as far as the eye can reach from north to south, and five or six miles from east to west covered at this season with many thousand head of cattle, buffalos, also elephants in considerable numbers. Saw some of their bandies, which are the best specimen of their workmanship I have seen; the wheels are exactly like, and equal to those of a common English cart.

“25th. I have heard to-day that orders have been given to the people not to buy any thing from the merchants who accompanied me, and not to come about my house. Yesterday they endeavoured to exchange their goods for cattle, but the people dare not sell without orders, though anxious to do so. I sent the interpreter to CHOW-TCHE-WEET, as is the custom here, to intimate my intention of calling on him. He excused himself on account of indisposition. I told the interpreter also to say I was anxious to return on Saturday or Sunday at farthest, and to inquire if there were any objection to my going to *Zimmay*, to which I received no answer.

“Called on CHOW RAJAWOON, an elder brother of CHOW-TCHE-WEET's, but by a concubine; he lives in a small bamboo house outside the fort, but has gold betel apparatus, the gift of the King of Siam, which is only given to chiefs of rank. He has twenty-eight wives, and told me with evident exultation that they were all taken prisoners by himself but one. He was chief of the *Dummys*, or licensed robbers, for many years,—a situation of some honor and danger, where the most barbarous system of border warfare is carried on with the most rancorous hatred, and where the State looks upon the prisoners taken by these treacherous midnight robbers as a principal source of its population.

“I represented to CHOW HOVA the inconsistency of the friendly expressions towards us, whilst the very object of my visit, from which they ought certainly to expect much advantage, was defeated by prohibiting their people from purchasing the things they were anxious to be in possession of, from the few poor people who had accompanied me; that it was bad encouragement for future caravans on a larger scale; but to convince them we perfectly trusted in them, the merchants would remain till their things could be disposed of, and that I would give a note of their names and numbers.

“26th. I received a visit from CHOW HOVA to-day, the purpose of which was to induce me to remain here for two months, till the presents I had brought were sent to *Bankok*^{ss} and the King's sentiments known. I told him my reception had been such that I could have no objection to remain twelve months, but that the purpose of my visit had been to assure them of our friendly disposition towards them, and open a friendly communication between *Maulamyne* and the *Shan* country; that we had been on the most friendly terms from time immemorial with the King, or I could not have been sent to any of his allies or dependencies; that they were now aware of our sentiments and our anxiety to be at peace with all our neighbours, and that I wished to return on Sunday the 31st.

“29th. Paid my second visit to CHOW-TCHE-WEET to-day, who sent in the morning to say he would be glad to see me; I was received as before, but with less stiffness and more cordiality, and there were no armed people in the street. He repeated his declarations of friendship towards the English, which I see no room to doubt; and said the only reason we were not on the same terms as natives of the country, was the bad feeling of the *Zimmay* chief towards us, and

that they had sent to *Siam* to endeavour to bring him under the king's displeasure for having received me as he had.

"I begged to know if CHOW-NI-MOI-KOIN and PONYA-TCHE would be allowed to accompany me, and told him I was anxious to start on Sunday 31st. He said in that case it would be impossible for them to accompany me, and hoped I would wait nine days, when every thing would be ready, and a lucky day, and they should then proceed along with me. After some consideration, I said that though my instructions were to return immediately, I would take on myself to remain. 'Then,' said he, 'every thing is settled very soon; if you have any thing to ask or communicate, do it without reserve.' I then produced the General's pass, which mentions 1100 people, though there are now scarcely 100 remaining, the others having escaped as opportunity offered; and asked what were his intentions regarding those people; and as I had little doubt of his refusing to liberate them, and I had no authority to demand them, I added, that as our friendship was sealed and they were apprehensive of the King of *Siam*, I did not wish to press their immediate release, but begged he would allow the heads of the villages now left (who was the person they had selected to bring the letter to *Maulamyne*) to accompany me, and communicate his case to the Commissioner, that from the constant and friendly intercourse we had with the King of *Siam*, and his having given up our people who were carried off from *Mergui*, I had no doubt of the result. He readily agreed to the man's accompanying me, but begged jocularly that I would not give him up to the Burmans, who were a thorn in their eye, which seemed a signal for the conversation to become general; amongst other things he told me he had 80 wives, 18 sons, and 16 daughters, of whom one is an inferior wife of the King of *Siam*, but has unfortunately no children; that his relations in the three towns amount to upwards of 700; that there were 30 guns in this town, and 40 in *Lagon* and *Zimmay* each; (a Burman prisoner here has offered to eat all above ten in the three places;) that there are 4,000 inhabitants in *Laboung*, 40 or 50,000 in each of the other towns:—this is also of course very much exaggerated. The people who accompanied here to-day, after many pros and cons, received an order to buy forty-two bullocks for carriage. A Chinese who is here (father-in-law to CHOW-TCHE-WEET) is to start to-morrow for *Zimmay*, to bring up some of the principal Chinese traders said to have arrived there, and I have strong hopes, from the enterprising character of the Chinese, they may be induced to visit the coast,

"I was invited into the fort at 3 P. M. to an entertainment, and had the ceremony called "*Pouk*"⁵⁹ performed; beyond which I am told there is no possible mark of friendship. It consisted in two old men saying a prayer of some length for long life, riches, and happiness to one of the English Chiefs of elephants and horses and conqueror of the Burmans, and tying seven threads of white cotton round my wrists: the latter ceremony was also performed by CHOW RAYA WOON, the chief's elder brother, and by CHOW-NI-MOI-KOIN, and I returned the compliment to them. Two large bouquet of flowers, one ornamented with a number of thin silver plates, and some of the flowers being of very considerable but oppressive fragrance, were presented. Sweetmeats were also served up to me, and rice with various curries, both to the people who accompanied me and to the natives, in large silver bowls, to the number of probably fifty, varying in size

from a foot and a half to a few inches in diameter: the workmanship of many of those of the lesser size was remarkably good, nearly all gifts from the King of *Siam*; after which seven of the chiefs' wives danced to the music of the *Bankok* band, by which they set great store, and the music is certainly very pleasing. Many of the women possess a very considerable share of Asiatic beauty: their eyes in particular are large and expressive, without a trace of the Tartar; their skin remarkably fair, and had it not been for the little Burman nose, some of them would have been really handsome. There were probably not less than 300 people present—all the chiefs of *Laboung*, many of those of *Lagon*, but none from *Zimmay*.

"February 8th. I have at length prepared to start in the morning by the shortest and best route to *Maulamyne*. The only reason for not starting to-day is its being a *black* one, and it would be disrespectful to me, as well as dangerous to themselves, to begin a journey to-day. I took leave of the chief to-day, and have been allowed as an especial favor to buy one (and CHOW-TCHE-WEET has presented me with another) young female elephant, and sends one as a present to Mr. MAINGY.

"Had another visit from some *Zimmay* people to-day, who agree with the others as to the very friendly feeling of the people there towards us. They say they so fully expected me there, that houses have been ready for the last ten days. On taking leave of CHOW HOUA he gave me a rhinoceros horn, on which he seemed to set a great value, as a charm against every evil; and as I had expressed some impatience at their delays and suspicion, he begged I would not suspect them of any want of friendship in so long withholding permission to purchase bullocks and trade with their people; that our character was perfectly new to them; that they were like an elephant crossing the river;—they must feel before they proceeded; that their difficulty was now got over, they were aware of our intentions being good; and that we should now come there on the same terms as subjects of *Siam*.

"In proof of their sincerity and the trust thus reposed in us, BEYNA-TCHE would accompany me with 50 or 60 people, 2 or 300 cattle, and a number of elephants; that they all lived by trade or agriculture, and that some of the CHOW's sons would certainly next year visit our settlement on the coast. He invited me to repeat my visit next dry season."

On the 9th Dr. R. started on his return: he gives the following account of the route he took, which, until the 15th, was the same by which he had travelled on his way up.

"15th. Direction South, 30 West. Time, 4 hours; distance, 10 miles.

"12. 35. I started: most of the people having gone on before me.

"1. 30. Came amongst the hills and commenced to ascend.

"2. 12. Broke off from the old *Mein-lun-ghee* road, leaving it a little to the westward.—2. 20. Crossed the *May-papie* in a few inches of water; path narrow, through low bamboo jungle; hills range about south 70 west, north 70 east.—3. 45. Crossed the *May-Gnoot*⁶⁰ and halted on the western side in long grass; the bed of the stream rocky and wide 20 or 30 feet, with but little water at this season. . Saw two wild cows and a tiger this evening.

"16th. Direction South, 50 West. Time, 6 hours; distance, 13 miles.

"9. March along the banks of the *May-Gnoot*, and continued to ascend with

few declivities ; the path rocky.—10. Rocky steep ascent for half an hour.—10. 55. Saw the first pine trees.—11. 30. Left the *May-Gnoot*.—1. 20. We entered pine forest, and no other tree is to be seen but a few stunted yews.—3. Halted on the N. E. bank of a small stream called the *May-lie*, which falls into the *May-ping* to the eastward ; the path has been pretty good, and though rocky in many places, I think less difficult than the *Mein-lun-ghee* road : it is the old road to *Martaban*⁶¹, and has been little frequented for the last seven years ; the rocks in all the high hills are granite of very dark colour externally. A good deal of thunder and rain this evening ; this halting place is famous for tigers ; several people have been carried off from it.

“ 17th. Direction South, 30 West. Time, 3 hours, 20 minutes ; distance, 11 miles.

“ 8. 30. Crossed the *May-lie*.—9. 30. Proceeded by a nearly level path along the top of a small connecting range of hills in a noble pine forest.—11. 30. Descended.—11. 50. Halted on the banks of a small stream, the *May-tome*⁶². Path remarkably good and nearly level for the last two and a half hours ; some of the pine trees measured eight or nine feet in circumference, and are much taller and straighter than the same trees in Europe.

“ 18th. Direction South, 45 West. Time, 3 hours, 15 minutes ; distance, 14 miles.

“ 8. 45. Crossed the *May-tome*, and continued along a good path ; descending for nearly half an hour.—9. 30. Crossed a small stream.—11. 15. Crossed another small stream, and ascended with occasional small descents till 10, when we halted on the southern bank of the *May-tuan*⁶³, running to the eastward.

“ The whole march to-day through the same fine open forest of pine ; the path good and the hills not at all steep. Shot a jungle cow to-day : these are abundant in some of the valleys near our route ; the flesh was harder than the worst buffalo. Tigers and the common deer are abundant.

“ 19th. I have been obliged to halt to-day to refresh the elephants, as the passes are said to be difficult and no forage for three days for them : (there are seventeen large and four small ones.) We are now on the site of an old city⁶⁴ formerly inhabited by Talines (to whom all the country to the westward formerly belonged) and more lately to the Shans, but has been deserted some years on account of the devastation committed by the Burmans ; the valley is of some few miles in extent, and through it runs the *May-tuan* river, which at this season is about two feet deep, and as it falls into the *May-ping*, was formerly navigable for small canoes to *Bankok* ; its course is extremely winding.

“ 20th. Direction South, 50 West. Time, 6 hours, 30 minutes ; distance, 30 miles.

“ 9. Ascended along a rugged bad path.

“ 10. 17. Descended. The firs which have been gradually diminishing in numbers through the whole of to-day's march, are now only to be seen in single trees towering above the other trees of the jungle.—3. 48. Halted in a ravine of very thick jungle on the west bank of the *May-tuan*, running to the northward.

“ The march to-day has been the longest as to time, the most toilsome and disagreeable since leaving *Maulamyne* ; the path has been either up or down steep hills, or along the bottom of ravines into which the sun can only shine a few

hours in the day ; and since half past ten through a thick jungle. Our course has been all round the compass, and I have been obliged to note its direction no less than eighty times to get at any thing like a correct general direction ; we are again on the banks of the river which we left this morning, the course of which is even more tortuous than the road we have come. We are encamped on a small level spot of a few hundred yards, surrounded by high hills ; the jungle extremely thick, but abounding on the hills with deer of all sizes, cows, buffaloes, tigers, leopards, and rhinoceros. We passed the end of the road, which runs more to the eastward, along which the bullocks are to come ; path is much better, but there are no inhabitants in that direction.

“ 21st. Direction South, 65 West. Time, 7 hours ; distance, 15 miles.

“ 9. 15. Proceeded along a narrow ascending path in thick jungle.—4. 45. Halted on the *May-Koung*⁶⁵, wide 30, deep $1\frac{1}{2}$ feet, pebbly bed, a short way from *Kanos*⁶⁶, a Careen village. The march to-day has been over a succession of hills, some of which were nearly perpendicular, and I should think almost impassable for a loaded bullock, though the elephants have travelled with ease. The path is well shaded, and there is abundance of water : indeed the jungle has generally been so thick that we could only see a little of the path before us, and a ravine or a hill close to the road ; the march on the whole was less disagreeable than yesterday, having been more on the hills. Between 10. 20, and 10. 40, passed a hill, on which there are a great many lofty cinnamon trees, the only ones known by the Careens to exist on any of the hills, and are not at all prized by them ; the bark is about two inches thick, and of good flavour, when fresh, but acquires a bitter taste when dry. Passed some immense trees, called by the Burmans *Couck-Moo*⁶⁷, of which the canoes are made ; said to be large enough to make a canoe for 5 or 600 baskets of paddy.

“ 22nd. Direction South, 40 West. Time, 2 hours, 30 minutes ; distance, 7 miles.

“ 9. Path pretty level ; jungle extremely close.—9. 20. Along the bed of the *May-Koung*, pebbly with large rolled mosses overhung by rocks 1 or 200 feet high.—10. Jack trees ; said to be the site of an old city.—11. 30. Halted in a thick jungle with some betel-nut trees on the western bank of the *May-Koung*. March nearly of the same character as the last two days, but the hills less steep.

“ 23rd. Direction South, 55 West. Time, 8 hours ; distance, 17 miles.

“ 8. 4. Ascended.—9. 10. Wound up the face of an extremely steep hill from east to west, in a southern direction ; and at 9. 20 ascended along the brow of the hill.—11. 40. Crossed the *May-Tia*⁶⁸, and proceeded along a ravine.—1. Recrossed the *Tia*.—4. 45. Halted on the east bank of the *May-Gnow*, wide 90 or 100 feet, running north, 20 west. The hills to-day, with the exception of those on the 21st, were as steep as any we have crossed ; and our progress slow and difficult ; some of the highest hills to-day had been cleared for paddy, and the ground is said to be productive. Met a *Zimmay* slave merchant returning by the route ; he had six slaves, three of whom are about five years of age, for each of whom he gave four bullocks.

“ 24th. We have been obliged to halt to-day till the old road between *Mar-taban*, and this, which has grown up from disuse, be a little cleared by the Careens for the next two marches, when it again joins the route followed by us in our march up one day from the *Thaung-Ein*.

"25th. Direction North, 80 West. Time, 2 hours, 30 minutes; distance, 7 miles and 4 furlongs.

"9. 45. Crossed the *May-Gnow* several times along a level road. At 10 passed a small Careen village, and left the *May-Gnow* to the northward. The Careens had cleared the path through long grass, along the banks and in the bed of the *May-Satang*⁶⁹, a small stream of a few inches deep. At 10. 15 halted on the banks of the *May-Satang*, in thick jungle with wild plantains. The path to-day has been nearly level down the course and across the valley of the *May-Gnow*.

"26th. Direction North, 65 West. Time, 3 hours; distance, 7 miles.

"9. 30. Proceeded along a pretty good path, crossing the *May-Satang*.—10. 45. Descended and crossed the *May-Satang*, the last time.—11. 40. Side of the hills less steep to-day than some parts of our march, but path very narrow on the brink of a precipice.—12. 30. Halted on the brow of the hill. The road which we have come to-day will be good when more frequented. Except a very steep hill at the beginning of the march, the Careens declare there is no better path through these hills. A considerable part of the march to-day was through an old paddy hill on which the trees had not yet acquired any size, and many of the other hills had been cultivated to their summits within the last year or two. The Careens in this part of the hills must, of course, be pretty numerous.

"27th. Direction South, 70 West. Time, 5 hours, 13 minutes; distance, 11 miles, 6 furlongs.

"9. 10. Started, and crossed several hills, or rather heights, on the hills.—2. Came on the paths we travelled on the way up.—2. 25. Halted at our former halting place on the banks of the *Seindzoy-Keum*⁷⁰. The path to-day has been good for elephants, and very passable for bullocks.

"28th. Direction South. Time, 6 hours, 40 minutes; distance, 12 miles.

"9. Crossed the *Seindzoy*, and proceeded along the path pursued on our way up.—1. Passed our old halting place on the *May-tha-woe*⁷¹.—3. 40. Halted at our former halting place on the banks of the *Thaung-Ein*⁷².

"The first half the march to-day, which was extremely distressing to the elephants from the steepness of the hills, was performed in two hours and a half on our march up, and took us four hours to-day. The last half of the march was more level along the little valley of the *May-thoe-woe*, which we crossed 8 or 10 times, and was performed in very little (10 minutes) more time than we took in the way up.

"*March 1st.* Halted to-day on the banks of the *Thaung-Ein*. To-morrow I shall proceed alone, and the Shans will wait for the remainder of the cattle on their own side of the river. The golden sword-bearer is to accompany me on our march with four elephants.

"2nd. Direction South, 20 West. Time, 4 hours, 5 minutes; distance, 12 miles.

"10. Crossed the *Thaung-Ein* at an elephant's ford about $\frac{1}{4}$ of a mile above where we crossed before.—12. 10. Passed *Ween-Wee*⁷³, our old halting place.

"3. 5. Halted on the old ground at the top of the waterfall⁷⁴.

"The path for much the longer proportion of this march was good and per-

fectly level; the elephants consequently proceeding rapidly, and were up with the people.

"3rd. Direction South, 20 West. Time, 4 hours, 20 minutes; distance, 10 miles.

"10. 20. Descended the waterfall.—1. 15. Reached the *Yum-byue*⁷⁵ river.—2. 45. Crossed the end of the *Yum-byue* path, by which we marched on our way up, and halted on the beginning of the *Dagyue*⁷⁶ path, near our former halting place.

"The descent of the waterfall was less difficult than I had anticipated. The bullocks left *Ween-Wee* this morning, and were up a short time after us. The road on this side of the *Thaung-Ein*, though still amongst the hills, is less mountainous than we have travelled between *Mein-Woot* and that river.

"4th. Direction South, 45 West. Time, 2 hours, 45 minutes; distance, 7 miles, 4 furlongs.

"9. Crossed the *Mian-Koung*⁷⁷, the path good but narrow, from not having been cut by the Careens.

"9. 45. The whole jungle of short bamboos intersected in all directions with elephants' tracks.—12. 30. Crossed the *Chline-Boye*⁷⁸ river, now with only a few inches water, but the bed of the river is 80 or 100 feet wide, with deep banks, probably 18 or 20 feet.—1. 10. Halted on the north bank of the *Kwee-Keung*⁷⁹ or buffalo stream, 10 or 12 feet wide, running to the westward. The path to-day was particularly good and level, but not cleared for a few miles. Some of the people saw to-day a herd of 20 or 30 elephants, amongst which there were several males, and some young ones.

"5th. Direction South, 45 West. Time, 2 hours, 45 minutes; distance, 7 miles, 4 furlongs.

"9. Crossed the buffalo stream and marched along a good level path.—11. Halted on the banks of the *Ou-ko*⁸⁰, after searching half an hour in vain for a path; the Careens who were sent for this morning at daylight have not yet arrived. The path to-day good, open and level, and, as yesterday, much intersected by elephants' tracks.

"This part of the country was formerly inhabited by the *Lowa-Talines*⁸¹, and the places still bear *Lowa* names; the same race extended to the *Moy-Toum*, before the country was devastated by the Burmans, whose blood-thirsty rapacity has depopulated the whole of this part of the ancient Taline kingdom.

"6th. Direction South, 30 West. Time, 4 hours, 15 minutes; distance, 12 miles, 2 furlongs.

"8. 30. Good path through open jungle and long grass.—11. Remains of Careen villages.—11. 20. Plains of considerable extent; marks of wild cattle.—12. 25. Halted in consequence of the jungle in advance being on fire.—1. 40. Proceeded, and at 2 halted on the south-western bank of the *Chline-Boye* (which falls in the *Gyne*⁸², a short distance in a South 70 East direction from this.) Such is the level nature of the country that some of the stream runs into the *Chline-Boye* in the beginning of the rains, and out of it after they have fairly set in. The bed of the *Chline-Boye*, which rises 20 or 25 feet in the rains, is here 80 or 100 feet wide, the water about knee-deep in some places, in others of greater depth, and frequented by alligators; and that of the *Chline-putty* about 30 wide and 25 deep: they were both choked up with fallen trees, and the latter dry at this season.

"The march to-day has been through a level country ; the jungle open with long grass, and four or five small plains covered with small bamboos much cut up by the jungle cattle. Elephants' tracks still intersecting in all directions. Saw some rhinoceros' marks to-day ; their feet are smaller than the elephants, toes more apart, and the nails longer ;—sent off two sick people to proceed down the *Ghine* in boats, under charge of the head Careen.

"7th. Direction South, 20 East. Time, 2 hours, 30 minutes ; distance, 7 miles.

"8. 30. Proceeded along a good path and level.—9. 30. Plain with long grass. At 10. 45 large plain and paddy stubble covered with upwards of two hundred buffaloes belonging to the Careen village of twenty-eight or thirty houses called *Twine-woot* or *Twine-bot*.—11. Halted at the end of a plain.

"8th. Direction South, 35 West. Time, 2 hours, 20 minutes ; distance, 10 miles.

"10. 10. Proceeded along the level path, through a country of the same character as yesterday.—2. Bed of the *Tham-bou*⁸³ river.—2. 30. Halted at a broken bridge over the *Atsong*⁸⁴ river on the high road from *Martaban* to the town of *Gyne*, about ten miles from *Gyne*, and at an equal distance from *Domittha*⁸⁵, and within sound of the evening gun of *Maulamyne*. The town of *Gyne* was destroyed in a revolt of the Talines about twenty years ago.

"The road to-day good and level ; very beautiful plains, less water than usual, but plenty for cattle and passengers.

"9th. Direction South, 20 West. Time, 6 hours ; distance, 17 miles.

"8. 10. Route continues through level grassy plain with occasional patches of jungle.—11. 11. Paddy stubble.—2. 10. Halted near the *Thaung-thoo* village of *Naung-laung*⁸⁶, containing about thirty houses, and probably about 200 inhabitants : found here a body of about one hundred of the annual caravans of the *Shan-Gaung-bee*⁸⁷ Shans, who have been nearly four months on the road from their own country in the north. The road to-day level, and generally free from jungle, through plains of fine long grass. The path has been extremely tortuous, and for the last two hours most unnecessarily winding in all manner of directions through a plain of short grass or paddy stubble. The whole of the plains in this neighbourhood are covered with rich green grass, enough for the subsistence of an immense number of cattle throughout the dry season. The waters of the monsoon recede very late from this part of the country, and at that season boats pole across this plain to *Yam-soline*⁸⁸, and from thence up the creeks to *Shewe-Ghin*⁸⁹, and *Toungoo*⁹⁰.

"The path along the plain was much exposed to the sun, and many of the Talines, who suffer more from the sun than the natives of India, were ten hours on the march.

"10th. Direction North, 20 East. Time, 8 hours ; distance, 26 miles.

"7. 15. Marched along the continuation of the plain till 1. 45, when we halted a few hours at *Dzadi-been*⁹¹.—6. 30. From this proceeded in boats to *Maulamyne*, where we arrived at 9. 20 P. M.

[To be continued.]

II.—Outline of Political and Commercial Relations with the Native States on the Eastern and Western Coasts, Malay Peninsula*. By T. J. NEWBOLD, Lieut., A. D. C. to Brigadier General WILSON, C. B.

Note.—It will be convenient to preface, that the subjoined outline follows the geographical order of the States on both coasts of the peninsula; commencing on the north-west with *Quédah*, and proceeding southerly down the Straits of Malacca to *Point Romania*—thence turning northerly along the eastern coast up to *Patáni*.

The following is the order of the States, with their supposed boundaries and estimate of population, chiefly derived from native sources in 1835.

Quédah†—from the *Trang* river, in $7^{\circ} 20'$ N. to the *Krian*, $5^{\circ} 10'$ N. Population 50,000.

Pérak—from the *Krian* to the *Rúnkúp*, in about $3^{\circ} 59'$ N. Population 35,000.

Salangóre—from the *Rúnkúp* to the *Lingie*, in about $2^{\circ} 35'$ N. Population 12,000.

Malacca—(British territory,) from the *Lingie* to the *Cassang*. Population, (1833-1834,) 34,333.

Johóre—from the *Cassang* to the *Sedilly*, on the East coast, $2^{\circ} 15'$ N. Population 25,000.

Paháng—from the *Sedilly* to the *Kemámang*, in $4^{\circ} 15'$ N. Population 40,000.

Kemámang—is situated a mile or two up the river, little or no territory along the coast. Population 1,000.

Tringánu—from the *Kemámang* to the *Basut*. Population 30,000.

Calántan—from the *Basut* to the *Barúna*. Population 50,000.

Patáni—from the *Barúna* to *Tana*, in $7^{\circ} 20'$ N. Population 54,000.

The population of *Pinang* in 1833 amounted to 40,322,—that of Province Wellesley to 49,553,—and that of *Singapore*, in 1834, to 26,329.

Quédah, *Ligóre*, *Patáni*, *Merdilous*, *Junk Ceylon*.—The upper states of the peninsula, viz. *Quédah*, *Ligóre*, *Patáni*, *Merdilous*, and the island of *Junk Ceylon*, are considered in the treaty concluded by Major BURNES, with *Siam*, in 1826, as provinces of that empire,—a concession to that arrogant power, scarcely just or politic.

Quédah.—Our relations with the latter four states are merely of a commercial nature,—an unrestricted trade with the ports of *Singapore*, *Malacca*, and *Pinang*. With regard to *Quédah*, it is stipulated in the above treaty, that the Siamese shall take proper care of that country and its people, and that they shall remain there: the inhabitants of *Pinang* and *Quédah* enjoying mutual trade and intercourse as before. The Siamese engaged not to levy any duty upon stock and provisions; such as cattle, buffaloes, poultry, fish, paddy, and rice, which the inhabitants of *Pinang*, or ships there, might have

* This paper, though rather more of a political nature than is suitable to a Scientific Journal, cannot be refused publication, as it forms the wind-up to the valuable series of notices of the Malacca States already printed in our pages.—ED.

† It must be borne in mind, that a tract of the *Quédah* coast, called Province Wellesley, about 35 miles long by 4 broad, extending from the *embouchure* of the *Mádo* to that of the *Krian* river, is under the *Pinang* Government.

occasion to purchase in *Quédah*: and the Siamese should not farm the mouths of rivers or any streams in *Quédah*, but should levy fair and proper import and export duties.

The English engaged to the Siamese not only that they would not attack nor disturb *Quédah*, but that they would not permit its deposed sovereign or any of his followers to attack, disturb, or injure in any manner the territory of *Quédah* or any other territory subject to *Siam*. They also engaged that they would make arrangements for the ex-king of *Quédah* to go and live in some other country*, and not at *Pinang* or *Prye*, or in *Perák*, *Salangóre*, or any Burmese country. In case the ex-king did not remove, the Siamese were at liberty to levy the export duty upon paddy and rice in *Quédah*.

With Quédah for Pulo-Pinang or Prince-of-Wales Island.—*Pulo-Pinang* was formally ceded to the British on the 12th September, 1786, for the annual sum of 6,000 Spanish dollars, by the father of the present ex-king of *Quédah*, through the agency of Mr. LIGHT, to whom it had been presented the preceding year as a marriage portion with the Malay king's daughter.

In 1802, Sir GEORGE LEITH finally arranged that the English Company should pay annually to His Majesty of *Purlis* and *Quédah* 10,000 Spanish dollars, as long as the English should continue in possession of *Pulo-Pinang* and *Province Wellesley*. This last is the line of coast, on the opposite shore, on the main, that lies between the river side of *Qualla Múda* on the north and *Qualla Krian* on the south; measuring inland from the sea side 60 orlongs.

The Company are bound to protect this coast from all enemies, robbers and pirates that may attack it by sea from north or south.

The treaty consists of fourteen articles, and terminates with the following remarkable paragraph. "These fourteen articles being settled and concluded between his Majesty and the English Company, the countries of *Purlis* and *Quédah* and *Pulo-Pinang* shall be as one country; and whoever shall depart or deviate from any part of this agreement, the Almighty punish and destroy him; he shall not prosper."

Pinang was formed into a regular government in 1805.

Pérak.—*Pérak* is the next state, on the west coast, south of *Quédah*. A notice of its relations has been already given.

Salangóre.—A treaty of commercial alliance, precisely similar to that entered into with *Pérak*, was concluded with *Salangóre* in 1818 by the British Commissioner, Mr. CRACROFT.

* He resided and drew his pension in *Malacca* till the close of 1835, when he left it ostensibly for *Delli* in *Sumatra*.

By Major BURNÉY'S treaty with *Siam*, 1826, the British are bound not to allow the State of *Salangóre* to attack and disturb that of *Pérak*. The Siamese are likewise bound by the same treaty not to go and attack or disturb *Salangóre*. In 1786 the Dutch dictated a treaty to the then Rája (IBRAHIM), by which the latter was compelled to acknowledge the sovereignty of the Dutch, who were then in possession of *Malacca*, and to hold his kingdom from them as a fief. In 1818 the Dutch wished to renew this treaty, but the *Salangóre* chief refused, relying on his newly acquired relations* with the British.

Johóre for the occupation of the island of Singapore.—In 1818 a commercial treaty was entered into, by the then Resident at *Malacca*, Major FARQUHAR, with the monarch of *Johóre*, who was acknowledged by the Dutch; viz. *Sri Sultán ABDURRAHMÁN SHÁH*. Since that time, however, the elder brother of this prince was set up and acknowledged by British policy as being the rightful successor, and in order to obtain a legal title to the island of *Singapore*, which, as will be shewn, was ceded to the Company by the latter. By Major FARQUHAR'S treaty with ABDURRAHMÁN SHÁH, mutual liberty of navigation and commerce in the ports and dominions of *Johóre*, *Paháng*, *Lingin*, *Rhio*, &c. was secured to British subjects, or persons under the protection of the Company, on the footing of subjects of the most favored nations; the subjects of *Johóre* enjoying similar advantages and privileges in the harbour of Fort Cornwallis, and in all other places dependent on the British Government of *Pinang*.

Sir STAMFORD RAFFLES, in a letter to Sir ROBERT H. INGLIS, states that the Dutch no sooner obtained possession of *Malacca*, (in September, 1818, the month after Major FARQUHAR'S treaty with ABDURRAHMÁN SHÁH had been concluded,) than, notwithstanding our treaties, which had been publicly communicated for their information on the cession of *Malacca*, they sent an overpowering force to *Rhio*, where ABDURRAHMÁN resided; declared the chief to be their vassal, treated our negotiations with him contemptuously, and dictated a treaty which excluded the British trade from the port, &c.

In consequence partly of the delivering up of a place, so advantageously situated as *Malacca*, to *Holland*, it was deemed politic by the Marquis of HASTINGS, in order to protect the British trade, and to secure one of the two passages to the Eastern Archipelago and *China*, to attempt the improvement of our relations with *Achín* at the

* *Salangóre*, formerly renowned for its warlike and enterprising colony of *Bugis*, has dwindled into a weak, piratical state. They were apprehending and preparing for an attack from *Siac* in the middle of last year. The present chief is not remarkable for talent or enterprise. His name is Sultán MAHOMED.

northern entrance, and to form a settlement at *Rhio*, an island advantageously situated near the southern extremity. For these and other political purposes, Sir STAMFORD RAFFLES was appointed and associated with the Resident at *Malacca*, Major FARQUHAR, by his Lordship, and proceeded on his mission from Bengal in December 1818.

On arriving in the Straits he found *Malacca* and *Rhio* in the hands of the Dutch, as already alluded to ;—consequently, *Holland* at this time held in her hands the keys of both those gates to the China Seas, the Straits of *Malacca* and *Sunda*.

The *Carimon* isles and that of *Singapore* were almost the only eligible spots now left. The latter, with the concurrence of Major FARQUHAR, and, some say, at the suggestion of Captain Ross, was judiciously selected by Sir STAMFORD, and the British flag there hoisted on the 29th February, 1819. The new settlement was placed in charge of Major FARQUHAR ; who, from his great popularity among the Malays, and local experience, was admirably fitted for the office.

It appears that Sir STAMFORD when off *Singapore* was visited by the *Tumungóng* of *Johóre*, a chief inimical to the interests of *Holland*, and by no means friendly to the claims of the Sultan newly elected by the Dutch, ABDURRAHMÁN SHA'H, with whom a reluctant and exclusive treaty, as far as regarded the commerce of other European powers, had been concluded by Dutch agents at *Rhio*, which gave them possession of that island. The *Tumungóng* represented to Sir STAMFORD, that the British were still at liberty to establish themselves on the island of *Singapore* under the sanction of the legitimate sovereign, whom he considered to be the elder brother, HUSSAIN MAHOMED SHA'H, whose lawful claims had been set aside by the Dutch in favor of those of his younger brother, ABDURRAHMÁN SHÁH, with whom they had concluded the arbitrary treaty already mentioned.

As the recognition of HUSSAIN SHA'H as lawful sovereign of *Johóre* was a necessary preliminary to treating with him, he was now invited over from *Rhio* to *Singapore* by the British Commissioners, and being acknowledged by the two hereditary elective officers of the empire, viz. the *Bandahára* of *Paháng* and the *Tumungóng* of *Johóre* as their lawful chief, was recognized and treated with as the legal sovereign by the Commissioners ; who forthwith entered into arrangements for the immediate occupation of the port and the establishment of a settlement at *Singapore*, pending a reference to the Supreme Government.

By the arrangement with HUSSAIN SHÁH, of the 26th June, 1819, which appears to have been rather loosely drawn up, it was decided that the British jurisdiction should extend only over a limited part of the island ; viz.—from *Tánjong Mullang* on the west, to *Tanjong*

Kattang on the east; and interiorly as far as cannon-shot range all round the factory. The council for the government of the island to be composed of the British Resident, the *Sultan* and the *Tumungong*.

This state of affairs continued with little alteration until 1824, when final arrangements for the entire cession of the island to the British were made, and a treaty of friendship and alliance concluded by the then Resident, Mr. CRAWFORD, on the part of the Company, with their highnesses the *Sultan* and *Tumungong* of *Johóre*. This took place on the 2nd of August. By it the island of *Singapore*, together with the adjacent seas, straits and islets to the extent of ten geographical miles from the coast of *Singapore*, were given up in full sovereignty and property to the East India Company, their heirs and successors for ever.

The Company agreed, in consideration of this cession, to pay to the *Sultan* the sum of 33,200 Spanish dollars, together with a stipend during his natural life of 1,300 Spanish dollars per mensem; and to the *Tumungong* the sum of 26,800 Spanish dollars, with a monthly stipend of 700 Spanish dollars during his natural life.

In event of the *Sultan* and the *Tumungong*, their heirs or successors, preferring to reside permanently in any portion of their own estates, and to remove for that purpose from *Singapore*, the Company agreed to pay the *Sultan*, his heirs or successors, the sum of 10,000 Spanish dollars; and to the *Tumungong*, his heir or successor, the sum of 15,000 Spanish dollars. The *Sultan* and the *Tumungong*, in return, relinquishing for themselves, their heirs and successors, to the Company, their heirs, &c. for ever, all right and title to every description of immovable property, whether in land, gardens, houses, &c. of which they might be possessed within the island or its dependencies at the time of their withdrawal from *Singapore*, for the purpose of residing permanently within their own states.

It was also mutually stipulated, that neither party should be bound to interfere in the internal concerns of the other Government, or in any political dissensions or wars which might arise within their respective territories, nor to support each other by force of arms against any third party whatsoever. The *Sultan* and *Tumungong* bound themselves that, as long as they continued to reside within the island of *Singapore*, or drew their respective monthly stipends from the Company, they would not enter into any alliance, nor maintain correspondence with any foreign power or potentate without the knowledge and consent of the Company, its heirs, &c.; to maintain a free and unshackled trade every where within their dominions, and to admit the trade and traffic of the British nation into all the ports and harbours of

the kingdom of *Johóre* and its dependencies on the terms of the most favored nations. Such are the conditions under which the British hold *Singapore* from the *Sultán* of *Johóre*.

Paháng.—*Paháng*, though virtually independent, is nominally a dependency of *Johóre*; governed by one of its elective officers, the *Bandahára*. It has consequently been included in the relations with that state.

Tringánu and Calantan.—By the 12th article of Major BURNÉY'S treaty it is stipulated, that *Siam* shall not go and obstruct or interrupt commerce in the states of *Tringánu* and *Calantan*. English merchants and subjects shall have trade and intercourse in future with the same facility and freedom as they have heretofore had; and the English shall not go and molest, attack or disturb those States upon any pretence whatever.

Patáni.—*Patáni* has already been adverted to as having become a province of *Siam*, on which empire it borders.

Present condition of the Malay States.—Having thus traversed both the eastern and western coast of the Peninsula, I will briefly advert to the political condition of the Malay States as it existed at the time of my quitting the Straits in 1835. The Siamese retained, in spite of their struggles, firm hold of *Quédah* and *Patáni*, which are still groaning under the yoke. The rightful *Rája* of *Patáni* remained a close prisoner in *Siam*, and his country in a state of depopulation and distress under a Siamese governor. *Tringánu* and *Calántan*, being less under the withering influence of the monarch of the White Elephant, are in a more prosperous condition, carrying on a considerable trade with *Singapore* under their own princes. Both *Tringánu* and *Calántan* have been lately menaced by *Siam*, in violation of their treaty with the British, by which they are interdicted from interfering with these States.—*Kemámang* is a small state, lying between *Tringánu* and *Paháng*: of the former it is nominally a tributary, but bears a *mala fama* on the score of piracy,—a practice said to be countenanced by its chief. The pirates are chiefly tempted by the prows trading from *Patáni*, *Calántan* and *Tringánu* to the port of *Singapore*. *Paháng* was in a peaceable and flourishing state under its *Bandahára*, carrying on a profitable trade with *Singapore*, chiefly in gold-dust. The shores of *Johóre*, though nominally the possessions of our stipendiary the Sultan, are miserably neglected; the creeks, bays, islets, and rivers of this extensive tract affording safe shelter to the hordes of pirates that threaten to extirpate the native commerce of *Singapore*. The states in the interior of *Malacca* were, by the last accounts, still in anarchy and confusion, arising from the fierce feuds and broils which have for some years

past been raging among the native chiefs. *Salangóre* was labouring under serious apprehensions of an attack from *Siac* on the opposite coast of *Sumatra*, the chief of which was said to be collecting a fleet of *práhus* for that purpose. The Rája of *Salangóre* was employed in repairing his fort, and remounting the numerous guns that lay scattered on and around the hill on which the fort stands. *Pérak* was quiet, and occupied in agriculture and the tin trade. Our old ally, the ex-king of *Quédah*, and the Sultan of *Johóre* were living on their handsome pensions at *Malacca*. The latter has since died (September 2nd, 1835). Near the close of 1835 no steps had been taken with regard to the succession. According to treaty, the pension was to expire with the Sultan; but out of consideration to his widow and children, an allowance of 100 Spanish dollars per mensem has been granted her by the Straits Government, pending a reference to Bengal.

The late Sultan first married with the present *Bandahára* of *Pa-háng's* daughter; by whom he has no issue. By his second wife, the present *Tumúngong* of *Singapore's* sister, he had a son, surnamed *Tuanku besár*, who married one of the *Tumúngong's* daughters, but died without issue. His third wife was a woman of low birth, by whom he has a son now living at *Singapore*, named ABDAL JALIL. He is about 21 years of age. Not being of noble blood by his mother's side, his claims to the succession are not considered good by the Malays. By the fourth and present wife, who is of royal extraction, he has two sons, fine lads,—and two girls: they reside with their mother at *Malacca*. The eldest of the boys is considered the late Sultan's heir.

The ex-king of *Quédah*, I believe, left *Malacca* towards the end of 1835 for *Delli* in *Sumatra*. He had, in 1833, expressed to me his determination of doing so, being disgusted at the answers given to his earnest and repeated applications for redress against the Siamese, and to his request for permission to reside at *Pinang*, which had then been recently refused by Lord WILLIAM BENTINCK. He said that he had many friends at *Delli*, and hinted at the possibility of his making a final attempt to expel, with their assistance, the Siamese from his dominions. *Pérak* and the whole Malay population of *Quédah*, and probably that of *Patáni*, are greatly under his influence; and it would require but little persuasion to excite the whole of the neighbouring Malayan States to take up arms against their haughty oppressors.

With regard to British influence over the Malay States, it might unquestionably be much greater than it is; and indeed we might possess almost sovereign power over the whole peninsula, were we

only to exert the political means already under our control. Of later days the fashion has been to treat with them as independent powers; while the chiefs themselves, from a combination of circumstances too long for detail here, are for the most part with difficulty and unwillingly brought to consider themselves so.

Experience has shewn the necessity of the existence of a predominating power, capable and willing to afford effectual mediation, to which these divided States may look up in their frequent disputes.

The Dutch during their ascendancy were fully alive to, and took every advantage of, the influence their commanding position gave them; as the numberless treaties concluded with almost every petty chief on the peninsula and in the Archipelago fully evince: but, by a series of tyrannical and impolitic acts, more particularly the disgraceful system of forced labour, they alienated the affections of a generous race of men, and lost, as a natural consequence, the fruits of their able, though selfish negotiations and political alliances. Britain now occupies a prouder situation with regard to these Eastern States than Holland ever did. Two princes, representatives of the two most noble dynasties, *Quédah* and *Johóre*, derive a handsome subsistence from British bounty. British colonies occupy, and carry on an extensive commerce from the site of those two ancient seats of Malayan empire, *Malacca* and *Singapore*; while British ships retain undisputed possession of the seas. It alone remains for a wise and liberal Government to consolidate and uphold the moral influence of public opinion,—that extraordinary talisman by which is held together the greatest of colonial empires. In the face of such considerations, deterred by the fallacious theories of non-intervention and non-territorial extension, we are incurring the heavy moral responsibility of permitting so great an extent of power, delegated, no doubt, for philanthropic and humane purposes, to lie inert,—a power which, if wielded with discretion, would not only strengthen our political and commercial relations in this part of the globe, but effect the decided amelioration, and, eventually, the radical extirpation of the evils under which these oppressed States now groan.

The absence of the strong hand of power, guided by the dictates of humanity and common sense, to settle the endless feuds of the native chiefs, which are too often excited and supported by the criminal cupidity of native merchants and others residing under our authority (as in the case of the late massacre at *Lúkút*, and the disturbances still prevailing at *Lingie*); the morbid dread of intervention, exemplified in our late treaties, and in our systematical non-support of the native established sovereigns in just authority over their rebel-

lious vassals; the worse than uselessness of British law, applied to a state of society for which it was never framed, are, it is my firm conviction, the remote causes of the present system of piracy now prevailing; of the numerous unpunished murders and outrages which disgrace not only the territories of Malayan chiefs, but also territories lying nominally under the protection of the British flag; and of the impoverished and disorganized condition of the Malays in general.

The resources of the soil have been almost hermetically sealed to the occupier by the frequent and protracted feuds already alluded to. Hence the peasant, driven from his village and lawful means of subsistence, and tempted by the smooth seas, the favorable navigation and shelter from pursuit afforded by the unexplored rivers, creeks, and numerous islets of the Straits, and by the charms of a life so congenial to the free and restless spirit of a Malay, is induced to scour the water for a precarious subsistence by fishing or plunder, or by both, as opportunity chance to present*.

* The *práhus* used by Malay pirates are from eight to ten tons burthen, extremely well manned and remarkably fast, particularly with the paddles commonly used. They are generally armed with swivels on their bows, centre, and stern, of small calibre, but long range. When preparing to attack, strong bulwarks of wood called *Apilans* are erected, behind which the crew ensconce themselves, fighting with their long guns until their prey is disabled; or till the *gong* sound the signal for boarding. But what they mainly depend upon for safety and success is their skill in paddling, (Malay pirates scarcely ever attack except during the lull between the land and sea breeze, or in a calm,) the swiftness of their boats, and their knowledge of the intricate channels between the islands, or over the bars of the rivers into which they generally contrive to escape, baffling their pursuers, and often leaving them aground on one of the numerous shoals or mud-banks which their own superior knowledge enables them to avoid.

The *práhus* of the *Súlú* and *Illánún* pirates are much larger and better equipped than those which commonly infest the Straits. The Malay pirates make their attacks and move in small fleets of from six to twenty *práhus*.

During the months of October, November, December, and January, they will be found cruising up and down the west coast of the peninsula and the opposite shore of *Sumatra*. From June to the end of September, they are often to be seen among the islets south of *Singapore*, and in the creeks and rivers of the *Johóre* coast. February, March and April are spent in fishing, collecting seaweed, and preparing for future piratical expeditions.

The crews are armed with boarding spears (some of very great length), *krisses*, Malay hatchets and swords (the *parang* and *kleywang*), muskets, blunderbusses, and a variety of missiles, such as sticks pointed and burnt at the end, stones, &c.

The most noted haunts for pirates on the western coast of the peninsula (according to information derived from a Malay of *Salangore*, who had in his

I conclude with a few suggestions touching the suppression of piracy now existing to so alarming an extent in the Straits. Its remote causes, I have already remarked, are alone to be removed by the adoption of a more enlightened policy towards the native powers ; and, it may be added, by the gradual spread of civilization and diffusion of useful knowledge.

1st. The employment of one or more small armed steamers, together with eight or ten large boats, of the fastest possible construction, (particularly for rowing ;) manned *fully* with Europeans, and well armed for both close and distant fight.

2nd. A discreet *surveillance* over the conduct of the present *Tumungong* of *Johóre* ; who is more than suspected of being the main-spring of the daring system of piracy which has so long been an opprobrium to the eastern extremity of the Straits. A threat of withdrawing the stipend he enjoys gratuitously from the British Government might be useful.

3rd. A careful survey of both coasts of the peninsula, the unexplored rivers, creeks and islets. This, in addition to other obvious advantages, will afford opportunities of observing the character and pursuits of the natives inhabiting the sea-shore and banks of rivers, who are always more or less in league with the pirates, and of collecting information of piratical haunts and places of *rendezvous*.

4th. The suspected native chiefs should be peremptorily called upon to lend their assistance and information : particularly the chiefs of *Kemímang*, *Salángore*, *Pérak*, and *Calántan*. And lastly, the co-operation of the Dutch Government should be secured.

III.—A brief account of MASU'D, known by the name of *Faríd Shakarganj* or *Shakarbúr*. By MUNSHI' MAHAN LAL.

[Dated Derah Ghází Khán, 10 miles off from the right bank of the Indus, 10th February, 1836.]

When we reached *Rámú*, a village on the left bank of the united streams of the Hyphasis or *Biás*, and Hesudrus or *Satlaj*, about 150

youth exercised the profession himself) are the *Bánting*, *Aroe*, *Cocab*, *Pisang Dinding* and *Sambalang* isles ; those on the *Salangore* coast, and the islets between Cape Rachado and the *Lingie* river. The rivers *Mirbowe*, *Birman*, *Perak*, *Puteh*, *Koroo*, *Múar*, Rio Formosa, or the *Battu Pahat* river, and formerly the *Lingie* river : the Straits of *Calang* and *Dryon*, Point *Románia* and its vicinity, and the *Carmion* isles to the south.

On the eastern coast are the creeks and small rivers of *Johóre* up to *Paháng* ; the *Kemímang* river ; those of *Tringánu* and *Calántan*, also the islands of *Timoang*, *Pulo Tingie*, *Redang* and *Aor*.

miles S.-W. of *Lodiáná*, we heard that between the two waters of the Hyphasis and Acesines is a town called *Pák Patan*. It was built in ancient days, and is looked upon as a place of devotion, since the body of SHEKH FARÍ'D reposes there. We crossed the river in a small boat, and bent our route to that direction. The road commenced in a fearful forest, and ended in an extensive hard clayey plain, which environs the above town. It is constructed on a precipice, which is 70 feet high from the surface of the land. The houses are small, both of burnt and unburnt bricks, and the bazárs are narrow, containing some poor shops.

In the year 600 Hijrí, or A. D. 1235, the town was celebrated by the name of *Ajwaddhan*, and was governed by a *Jogí* of that name, tributary to the neighbouring Mahomedan chiefs. When SHEKH FARÍ'D (whose original name was MASÚ'D) after travelling into Asia and Arabia chose his residence in this town, with the power of his piety he persuaded the *Jogí* to believe in the true faith of MUHAMMAD, and changed the name of the town from *Ajwaddhan* to *Pák Patan*. *Pák* in Persian means holy, and *Patan* in Panjábí signifies ferry, (holy ferry.)

It is added, that after passing some period, the SHEKH wished to undertake the *Mujáhedah*, which, I think, imports to labour in defence of the faith, and asked the permission of his *Murshid*, or the guide to salvation, who rests now in the charming place called *Qutab*, about nine miles S.-W. of *Dehli*. SHEKH QUTBUDDÍ'N BAKHTYÁR, as he is called, answered his pupil SHEKH FARÍ'D to make a "*taí*" or fast for three days. FARÍ'D did accordingly, and ate nothing for the fixed time. On the eve of the third day some person presented him with a few loaves, which FARÍ'D ate, thinking that they were sent to him from the invisible world, or "*Ghaib*." Meanwhile, a crow holding the polluted intestine of some dead animal in his beak came and sat on the bough of a tree. FARÍ'D, on the very first sight, felt an abhorrence in his heart, and, ejecting the bread which he had eaten a few minutes before, his stomach became quite empty. He told the circumstance to QUTBUDDÍ'N BAKHTYÁR, his spiritual guide, who replied, that God has bestowed a great favor on him, otherwise this meal would have hurt him. "Go now, MASÚ'D, and fast three days more." As he had not eaten any thing from six days, he became very weak, and the heat of hunger began to burn his heart. He stretched his hand on the ground, and, taking a bit of clay, put it into his mouth, and found that it tasted like sugar. This was the effect of his pure mouth. The following verse says,

سنگ در دست او گهر گردد زهر در کام او شکر گردد

Sang dar dast o guhar gardad, Zahar dar kám o shakar gardad.

“Stone in his hand becomes pearl, and poison turns sugar in his mouth.”

FARÍ'D attributed this favor of God to the tricks of man, so he threw it out of his mouth, and fell deeply again into the contemplation of the Omnipresent. At midnight hunger rendered him weaker than before, and he again got some pieces of earth, and after putting them in his mouth discovered that they were as sweet as sugar. The same thought of deceit came again in his memory, and he threw them once more out of his mouth, and engaged again in prayer as before. By the end of the night FARÍ'D reflected to himself, that the feebleness caused by hunger might render him unable to stir, so he picked up again some bits of clay and they became sugar in his mouth. He thought they might have been sent to him by God, ate them, and broke his fast in the manner he was directed by his guide QUTBUDDÍ'N. When the sun rose he went to QUTBUDDÍ'N, who told him, “FARÍ'D, you did well to break your fast with the sustenance sent to you from the invisible world. Go: you will be sweeter than sugar.” Hence he was called “FARÍ'D SHAKARGANJ SHAKARBÁR,” or the treasure of sugar.

Books have been written of the miracles wrought by FARÍ'D. TUGHLAQ, a man of obscure origin, and the inhabitant of *Abúr*, seven miles from *Pák Patan*, presented him with a load of fuel, and asked nothing for its price. The only petition he made to FARÍ'D SHAKARGANJ was, to plant him on the throne of *Dehli*; and it happened so by the benediction of SHAKARBÁR. The reign of this person may be remarkable for other things for aught I know; but the large and strong fort he constructed now presents nothing singular to the view except heaps of ruins. It was called *Tughlaqábád*, and is situated six miles south of *Dehli*.

FARÍ'D SHAKARGANJ had many followers; one of them was NIZÁM-UDDÍ'N. His body rests in the most handsome place out of *Dehli*. He was the patron of the famous poet AMÍ'R KHUSRAU, who, by the Persians, was denominated “*Totíe Hind*,” or the parrot of India, and sleeps on the same charming spot.

The mausoleum of FARÍ'D SHAKARGANJ is visited by the pilgrims of different quarters. The Hindus of this country believe him to be an inspired man, and pay respect to his monument, like the Musalmáns. After descending a few steps we came into a square laid with bricks, and entered the cupola in which the FARÍ'D is interred. It is floored with marble slabs, and opens by a door towards the east. On his left hand is the tomb of his son, SHEKH BADRUDDÍ'N, neither differing in size nor in materials. Over them is a pompous canopy of green

brocade tied with string against the roof of the monument. A small window covered with oil and dust is made in the direction of the south. It is called the "*Darwázah Bihisht*," or the door of Paradise, and is opened every year on the fifth of the month of *Muharram*, which is the death day of that holy man. The people flock on that day, and, pushing each other forward, rush in at the *Darwázah Bihisht*, and come out by the next door. By doing this they have been persuaded to believe, that they shall have the first place in heaven when they depart for the next world. The monument is 20 paces in circumference, and 30 feet high. It was erected by his disciple SHEKH NIZÁM-UDDÍN, *Auliya*, or the Saint. It is whitened with lime, and has a beautiful appearance when nearly viewed. FARÍD was born in 569 Hijrí, and died of colic in the year 664 H., at the age of 95. The following verse gives the above dates.

رحم فرما شد تولد عابد ازاده عمر
شد فرید الله سال رحلت مسعود عصر

Rahm farmá shud tawallud ábid ázádah umr,

Shud Farídulláh sále rahlate Masúd asar.

The words *Rahm farmá* we should take for the date of his birth, as, (رحم فرما) 1 40 200 80 40 8 200 or 569 Hijrí. The words *A'bid azádah* stand for the year of his age, as (عابد ازاده) $70 + 1 + 2 + 4 + 1 + 7 + 1 + 4 + 5 = 95$. *Shud Farídulláh* shews the date of his death as (شد فرید الله) $5 + 30 + 30 + 1 + 4 + 10 + 200 + 80 + 4 + 300 = 664$. "*Faríd asri*" or the gem of the time, is another date of his death as (فرید عصری) $10 + 200 + 90 + 70 + 4 + 10 + 200 + 80 = 664$ H.

Next to this monument in the same square is another dome built by TUGHLAQ SHÁH. It contains the tomb of SHEKH ALAH-UDDI'N, MOIZZUDDI'N and SHEKH FAZL, &c. &c. the descendants of FARÍD. The height of this dome is nearly 50 feet, and the circumference 36 paces. It is larger than the former, and has a door opening to the south. It looks older, because it has never been repaired. All of the graves were veiled with dust, but a few flowers lying over them showed that they are also occasionally visited by the people. The accompanying is the drawing of the FARÍD's monument, which I have done by the means of a *camera obscura**.

* Our young friend has evidently not yet acquired the knack of the *camera obscura* (*lucida*?). Out of consideration therefore for the memory of Dr. Wollaston, its inventor, we omit his unsuccessful attempt to use it.—ED.

Connection of Mithraic with Hindu Coins.



*Hindu Coins. Canonj Series.
with Ardokro
reverse.*



IV.—*New varieties of the Mithraic or Indo-Scythic Series of Coins and their imitations.* By JAMES PRINSEP, Sec. As. Soc. &c.

From the variety of the Mithraic reverses already made known, it might have been imagined that the series was nearly exhausted. Every year, however, adds a few new types to our previous list, or produces finer samples of these hitherto considered indistinct. So multiplied, indeed, are our resources at the present time, that we can afford to be fastidious, and not only reject coins of the baser metals, but limit the admission even of golden novelties to those of one size, weight and value !

My object in Plate XXXVI. is to develop more fully the transition from the Mithraic or Indo-Scythic coinage to the Hindu series, for which my numerous friends have furnished even more unequivocal links than those engraved in my former Plate, (XXXVIII. of Vol. IV.) I must begin, however, with a few novelties of the true Mithra type.

Fig. 1 is the first to rivet our attention and curiosity. It is an unique of Mr. MASSON's discovery. The *obverse* has the usual standing figure of the Rája sacrificing, with the legend PAO NANO PAO KANHPKI KOPANO. The *reverse* has an armed figure, nearly the counterpart of the other, but without any altar, and with the usual monogram: the legend being in MASSON's drawing, OPAAFNO. Not having the coin itself before me, the reading I venture to substitute for this, is of course liable to correction; but the strong similitude between the commencement of this legend and of the two curious ones formerly noticed, namely, APΔOXPO and APΔHΘPO, leave little doubt in my mind that the one before us should be read APΔAFNO; the word AFNO representing the Sanscrit अग्नि *Agni*, the god of fire; whom we may reasonably suppose to be substituted for *Athra*, as the Sanscrit अर्क *Arka* has been for *Mithra* in the Indianized designation, OKPO. The Pehlevi affix APΔ *Arda* (generally written APTA by the Greeks) implying 'the great,' bears an evident connection with अर्य *Arya*, a common Sanscrit epithet of the same signification, 'excellent;' or अर्य्य *A'rya*, holy, venerable; as अर्य्यमन् *arya-man*, the sun, आर्य्यवर्त्त *áryavárta*, the holy land, (India) &c. *Aria* also occurs in combination in Persian names beginning with consonants, as *Ariobarzanes*, king of Armenia,—a derivative from *Berzin*, the planet Jupiter of the Mithraic system*.

Further search, should these conjectures be well grounded, will probably bring to light coins with the single appellation AFNO, which has not hitherto been observed.

Fig. 2 is misplaced : for the imperfection of the Greek legend on the *obverse*, ought to condemn it to a lower grade in chronological order. All those legends which have the family name of KANHPKI are clear and better formed than those of OOHPI to which this coin belongs. The latter, too, have generally the bust of the sovereign substituted for the full length sacrificer. The name on the *reverse* of *fig. 2*, ΦΑΡΟ, is new ; nor is it at first very obvious what meaning it may be intended to convey. It cannot well be a corruption of ΔΘΡΟ, because the standing figure faces the opposite way—holds a spear, and wields the flames on his shoulders. Mr. Masson observes on this coin : “ Here is another peculiar legend, but evidently signifying the sun as source of light and majesty. *Pharos* was the term applied to the Alexandrian light house, and *Pharoah* is the well known Scriptural title of the old kings of Egypt. The bust on this coin affords a remarkable contrast to other coins of the family.” It is certainly probable that the word has some affinity to the Greek φαος, *lumen, dies, solis ortus*, but no more than is naturally found between languages of common origin. The word *Phraa*, or something like it, certainly existed in the ancient language of Persia, as the personification of light or heat—analogue to *Mithra*, the sun*. In compounds it is frequently found, as in *Phraates, Phruortes, Furnaces*, and *Phradates*; the latter being altogether congenerous with *Mithradates*, or as the Greeks translated the name, *Apollodotos*. From the same root are descended the modern Persian verb افروختن to inflame, whence امرز illuminating, so often employed in compounds. Perhaps the uncouth name of *Unad-Pherrou*, on a numerous class of the deteriorated Bactrian coins, may spring from the same root.

VAILLANT, however, gives a different and, I think, a less satisfactory etymology of the above class of names in his history of the Arsacidæ. “ *Phriapates* seu et *Phrapates*, idem ac *Aphra Pates*, seu et *Papatius*; nam apud Persas idem *Aphra* est, ac *Pa* apud Turcas Scythasque, scilicet elevatus, supremus, maximus, quæ nominibus propriis ut et *art* præponuntur.” (Arsac. Imp. I. 2.) Now if the word *aphra* be merely an intensive preposition, like the Sanscrit पर *para*, the Persian بر *ber*, the Greek παρ, and the Latin *præ* or *per*, the word to which it is affixed should be a significant adjectival noun, as परःक्रमः *parákramas*, the very heroic; اردشیر *Ardashir* (Artaxerxes), the great lion, or very valiant, &c. The participial nouns *Mithradates* (quasi ميثرا داده the given of *Mithra*) and *Phradates* (افراداده the given of *Phra*) require the first member of the compound to be a noun.

* *Phre* in Egyptian has precisely the same meaning as *mihra* in Persian, ‘king, prince.’

Fig. 3. A type familiar to us, in copper—and known before in gold of a smaller size. It was, in fact, one of the two coins first extracted by M. VENTURA from the Manikyála tope. In Mr. MASSON's coin the spelling accords with the vernacular pronunciation MIIPO, and the solar glory is irradiated on its edge, to shew more plainly its reference.

Figs. 4 and 5. Two more gold coins of Mr. MASSON's collection, having the legend of the reverse respectively NANO PAO and NANA, both proved to be equivalent to NANAIA by the peculiar attitude of the allegorical image. The introduction of PAO in the first of the two would almost seem a mistake of the engraver, who had in his mind the PAO NANO PAO of the obverse. I have nothing to add to my former remarks on the word itself, except to draw attention to an extract from the Armenian Chronicles with which Mr. AVDALL has favored us, proving that NANAIA and the Persian ANAHID were not positively identical, each having her separate temples and votaries even in Armenia.

"*Anahid* was the tutelary goddess of our country, and was known equally by the names of Artemis and Aphrodite in our mythological works. She was always considered identical with the planet Venus, though possessing all the attributes of Diana." As *Nanea*, on Mr. AVDALL's authority, means *maternal* or *motherly*, it would hardly be proper to ascribe such a designation to the moon, the chaste Diana; neither has her effigy on our coins the lunar emblem, so distinctly portrayed on the MAO and some other types. Rather then let her be constituted the *Venus* of the group, who plays an equally conspicuous part in the Mithraic system*.

Fig. 6. Is a gold coin from M. COURT's drawing, of the AΘPO reverse. The obverse legend is PAO NANO PAO OOHPIKI KOPANO.

Fig. 7 is likewise from M. COURT's collection. In it I was struck by the strong resemblance of the head-dress to that of the Parthian or Sassanian coins. The legend is wanting, and that of the reverse is quite illegible, though the monogram and device are in a perfect state.

Fig. 8 has been already engraved in my plate of the Manikyála relics; but as one of the most interesting of the Mithraic series, it could not be denied admission in a plate exclusively devoted to them. I wished further to place it in juxta-position with the sitting figure of the ΑΡΔΟΚΡΟ reverse, because it might be conceived to be the parallel Hindu *lunar* coin to that form of the Hindu *solar* effigy, OKPO.

* The Baron HAMMER says that the word *Neith* of the Egyptians is evidently the same as the Persian *Nahid*—whence also may be traced the German *Nacht* and the English *Night*.

Like OKPO, this figure has four arms, and is therefore Indian: further it is a male divinity; and thirdly, it is identified with MAO, the moon, by the crescents of that luminary arising from its shoulders. It must therefore be *Soma* or *Chandra* of the Hindu pantheon, who is represented with all these characters in MOORE, though a later work by Mr. COLEMAN makes him to be a two-handed divinity.

The appellation MANOABARO, which so puzzled me on the former occasion, has at length, I think, found a satisfactory explanation. *Máng*, مانگ in Persian, is an ancient name of the moon,—and *Bhaga* भग्न in Sanscrit, means splendour, glory; and is given as a synonyme of the moon as well as of the sun. In the Zend, then, the link between the Persian and Sanscrit, we may naturally look for a compound of these two terms, such as *manao-bago*. It is well known that the mythology of the Saxons was derived from a Scythic or central-Asiatic source, and their male deity MONA (whence our modern term, moon*), has been by the learned referred to the Persian *Mang*. I have, however, found a much more convincing proof than these analogies afford, that such is the correct explanation, in the Baron VON HAMMER'S Prize Memoir '*sur le culte de Mithra, son origine, sa nature, et ses mysteres*,' Paris, 1833; for a copy of which I am indebted to the learned author's perusal of my observations on the curious relics from the Panjáb.

In the catalogue of Mithraic inscriptions discovered in various parts of Europe, the Baron points attention to one in particular among GRUTER'S collection, in which the word MENOTYRANNUS denotes the deified moon:

" Cette inscription est une des plus interessantes à cause des deux mots de *Menotyranus* et de *Persidicus*: le dernier indique l'origine persane du culte de Mithra: le *Menotyranus* peut se traduire par, seigneur du mois; mais malgré les objections de M. Rolle contre l'existence du dieu *Lunus*, je crois que cette existence peut très-bien être prouvée, non seulement par tous les monumens astronomiques des orientaux modernes, dans lesquels la lune est représentée sous la figure d'un jeune garçon de quatorze ans, mais encore par la coincidence de la mythologie Egyptienne dans laquelle la lune, d'après les decouvertes de M. Champollion, est une divinité mâle. Enfin le mot MHN dans lequel M. Rolle ne voit que le nom d'un mois, est effectivement un nom persan de la lune qui s'appelle *mah* et *mang*; c'est le *moon* des Anglais et le *mond* des allemands, lesquels lui ont conservé son genre oriental."

* In like manner I feel strongly disposed to connect the strange OAAO of our coins with *Odin* or *Woden* of the Saxon mythos, an acknowledged derivative from the Sanscrit बुद्ध *Buddha*, Mercury. It is not a little curious that the verbal root of two of our present days of the week, Monday and Wednesday, should thus be discovered among a parcel of old coins dug up in the Panjáb!

After this we can have little hesitation in translating MANOBAPO 'lord of the months':—indeed if we derive BAPO from the Persian or Scythic *بیت* *beg*, 'lord or prince,' we shall have precisely the corresponding term to *tyrannus*.

Fig. 9. A gold coin of KANERKOS from a drawing by M. COURT. The *rao* in this seems to have a case for his bow strung behind his back. The reverse is similar to that of a fine coin of OOHPKI in General VENTURA'S series (fig. 9. of Plate XXXVIII. Vol. IV.) which however differs in having the bust in lieu of the full length of the prince. The legend APΔOXO has been before explained as "the great sun*." One of his attributes it may be presumed rather than the god himself, is intended, by the female holding the cornucopia—typifying the fertility he bestows on the earth.

Fig. 10 is a most important acquisition to our Mithraic series, as being the very link of connection between them and the *Canouj* coins. Immediately after the publication of my former plate, Lieut. CUNNINGHAM wrote to me from *Benares*, pointing out a coin in his cabinet of the class I had designated links, having the seated female with the cornucopia, but more perfect than those I had engraved, inasmuch as the legend to the left was preserved and legible as APΔOXPO, the same as that of the standing figure. A duplicate of the same coin was also in Colonel STACY'S cabinet, and on reference to the Asiatic Researches, Plate I., the letters of APΔOXPO were clearly legible on the reverse of fig. 6, a gold coin procured by Mr. WILSON from the bed of a tank in the *Húglí* district.

The cornucopia as a device seems to have been copied from the Roman coins of the Emperors. It is seldom or never to be seen on the genuine Greek coins—nor is it found on our Bactrian series until the age of *Azos* (with exception of the copper coins of ANTIMACHUS and PHILOXENUS, the date of which is uncertain). Whether it bears any direct allusion to the legend may be doubted,—at least such allusion is entirely lost sight of the moment we pass the boundary into the Indian series.

Hindu coins imitated from the Ardokro type.

Since my former paper on the *Gupta* coins of *Canouj* appeared, very important acquisitions have been made to our knowledge of this before unknown dynasty, through the medium of coins and of inscriptions; for both of which we are almost entirely beholden to the researches of Lieut. A. CUNNINGHAM and Mr. V. TREGEAR in the neighbourhood of *Benares*.

* The OPOOKPO of the copper coins may be deemed a still closer imitation of the Sanscrit *आर्यक* *Aryárka*. APΔ is the Persian orthography.

The inscription in an ancient character upon the column at *Allahabad* interpreted by Capt. TROYER and Dr. MILL in the 3rd vol. Jour. As. Soc. had made us acquainted with the four first of the family* ; namely, 1, GUPTA, a Rája of the solar race : 2, GHATOT KACHA, his son : 3, CHANDRA-GUPTA, his son : 4, SAMUDRA-GUPTA, the fourth in descent : —and there the *Allahabad* record broke off with an intimation that a son was *expected*.

The *Bhitari láth* brought to notice by Messrs. TREGEAR and CUNNINGHAM, fills up the line of succession for three generations further (see Plate XXX. of the present No.). We may so far anticipate the translation of this highly important record promised to us by Dr. MILL, for the illustration of our subject, as to state that the infant of SAMUDRA was named CHANDRA-GUPTA II. His son was, 6, KUMARA-GUPTA ; after whom followed, 7, SKANDA-GUPTA—and there again this new authority breaks off.

Now to all of these (excepting perhaps the first) we can at present assign their respective coins from undoubted and numerous specimens, and the succession of the devices on the obverse and reverse will be seen to follow just that modification from the original Mithraic model of the *Ardokro* coin, as would be expected when the source was nearly forgotten, and Hindu ideas became predominant. Moreover, we can, from our coins, add the name of MAHENDRA-GUPTA, and perhaps of ASSA-GUPTA to the list, and there is presumptive evidence of a second SAMUDRA as of a second CHANDRA. Altogether we may reckon upon nine or ten generations, which at an average of eighteen years will fill a space in Indian history of nearly two centuries, of which no written account can be met with ; unless the passage in the *Vishnu Purána*†, that the *Guptas*, a *Sudra* family, reigned over a part of *Magadha*, at the time of its compilation, be regarded as alluding to our dynasty. The sites whence their coins have been most frequently obtained, certainly agree with this description ; but the date assigned to the *Purána* must in this case be carried back a few centuries, and by the *Mlechhas* of the Indus must be understood the Indo-Scythians rather than the Musalmans. But I had intended to confine myself to an enumeration of the new coins, and to postpone speculation until we are thoroughly acquainted with them. To proceed therefore :

Fig. 11. One of two gold coins of Capt. CUNNINGHAM's cabinet (the first procured at *Benares*, the second in *Calcutta*, now with Dr. SWINEY). It is a duplicate of my own (from Lieut. CONOLLY) with the unintelligible legend, engraved as fig. 23 of Plate XXXIX. It was

* See Vol. 3, page 344.

† See WILSON's analysis of the *Vishnu Purána*, Jour. As. Soc. I. 440.

then alluded to as having the letters a little different from mine, and was read *Kragipta Paragu (pta)*. Upon full consideration of each individual letter as compared with those of other coins, I do not think the second letter a *g*; it is rather a *bh*, and the reading altogether कुभावुपरगज, *Kubhāvu paraguja* (adding the *ja* from the obverse of my own coin, where it is quite distinct). Now we have gained experience enough from our reading of this class of coins to expect that the legend, where it does not merely embrace the titles of sovereignty, will express some extravagant epithet. The final *ja* also (implying *born of*,) shews that the said epithet belongs to his father; and this will account for the omission of *ja* on one side of the coin, which would have the effect of making the epithet apply to the son also. The present compound may thus be made up of कु *ku*, a diminutive particle; भाव *bhāva*, the mind; उप *upa*, a particle implying similitude; रघु *Ragu* (for RAGHU) the grandfather of RAMA, and ज *ja*, born of * or, united by *Kubhāv-uparagu-ja* ‘of the humble-minded, resembling-Raghu-born.’ The name is unfortunately cut off from the margin. Two letters of it are visible under the Rāja’s arm on the obverse, and look like असा *Asa*: but on reference to my own coin, I have there no hesitation in reading it समुद्र *SAMUDRA*. The coin is in this case wrongfully placed at the head of the group in the plate, but as there are two coins to one in favor of the reading *Asa* I still hesitate to remove it, for *Assa-gupta* is a known name in the *Cashmir* list; and it is, moreover, so like our Azos, that one feels inclined to discover in it a coin of YAVAN-ASO himself, the supposed founder of this *Canouj* dynasty.

Fig. 12. This beautiful coin is an unique in Mr. TREGGAR’s possession. It is valuable on every account: as giving an additional link with the Mithraic coins (fig. 9), in the standing cornucopia-female; as adding a new and much desired name to the coin list; and as teaching a good lesson, in the most unequivocal and well formed Nāgarī, of the style of legend adopted by these sovereigns; to whom, whether from their extra-Indian, or their low origin, or their limited sway, the panegyrist seems to have avoided applying the usual epithets of royalty, *mahārāja dhīrāja*.

On the reverse the reading seems to commence, सर्वराजोच्च *Sarva-rājochhatra*, ‘the chatta or overshadower of all the Rājas’—then, on the right of the obverse, कामनरुत्तमज घ. . . *Kāma-naruttama-ja Gha-(tôt ?)* and under the left arm, written perpendicularly in the Chinese fashion क क KACHA. ‘Son-of-an-excellent-man-resembling-KAMA,

* I have worked out this solution, dictionary in hand; for the Pandits could not aid me in the least: it is therefore quite open to criticism.

GHA(TOT) KACHA.' The only portion of this inscription missing is the second syllable of *Ghatot*, which may be replaced with confidence. The Rája is sacrificing on the small Mithraic altar, and is dressed much in the Kanerkos style, though more fashionably.

Fig. 13. Next in succession to KACHA comes CHANDRA. Of his coins I have already supplied several examples, (see Nov. 1835, fig. 18, also MARSDEN MLVII.,) but to keep up the comparison of the reverses, I here insert a very perfect sample from Lieut. CUNNINGHAM's cabinet, procured at *Mirzapur*. Legend on the obverse राजश्रीचन्द्र *Rája* *Srí Chandra* (the rest only partially visible), and under the arm again च

Chandra; on the reverse श्रीविक्रम *Srí Vikrama*. I do not find any instance of the name on this form of coin being written *Chandra-gupta*, although it is distinctly so on the pillar-inscriptions. He is the first to change the trident standard of OOHPI for the (quasi) Roman eagle. He also prefers the bow to the spear.

Fig. 14. Lieut. CUNNINGHAM's, from *Gaya*, similar to my own (Capt. WADE's) of fig. 16, Plate XXXVIII. Vol. IV. Fig. 17 of that plate is another; and seven are now known of the same type, dispersed among us: but few, if any, have the marginal inscription so well developed. As all the coins bearing simply *Vikrama* on them may be set down to CHANDRA-GUPTA, so all having पराक्रमः *Parakrama* may be assigned to his son SAMUDRA-GUPTA the first. This legend is attached to the same sitting female as before on the reverse. The Rája on the opposite face is just like his predecessors in costume and attitude, with spear and eagle standard.

By means of Messrs. CUNNINGHAM's and TREGEAR's coins, added to my former specimen, the long legend on the obverse can be nearly all restored; it appears to be समर शत मतग. . . वजयजतर. . . *Samara śatamataga (ja)*. . . which may be translated 'having the strength of 100 must elephants,' and on the opposite margin *vijayajatar*. . . In my former specimen, however, the final portion read *Aparajita davaja*.

Under the arm the word समुद्र *SAMUDRA* is written in the perpendicular form, the *u* being apparently placed *above* the *m*, because the *d* had taken its proper position below.

Fig. 15 is another *Chandra-gupta*, from Col. STACY's box, of which Mr. TREGEAR has a duplicate. Another is engraved in MARSDEN, fig. MLVIII. From the alteration of the device, and particularly the omission of the fire altar on this coin, we might with plausibility set it down to CHANDRA-GUPTA the second,—but on the same authority we might make two SAMUDRAS; for these princes seem to have imitated one another so closely, that we find the device of the Rája and his wife

(?) like that of the Rájá and eagle standard, repeated on the *Samudra* coin (fig. 12,) and at a later period on a coin of SKANDA-GUPTA (fig. 24, of Plate XXXIX. Vol. IV.) with a change of costume. The Rájá's name on this coin is disposed in two perpendicular lines one on each side of the spear च॒गु
न्द्र॒गु Chandra-gupta—the second line, not very clear in Col. STACY's coin, is quite distinct in Mr. TREGEAR's, which reached me just too late to be substituted in the engraving. On the reverse, the cornucopia lady is seated on a sleeping lion—as if to express 'all will go on prosperously if ye rouse not the wrath of your ruler.'—On the left hand are the words पञ्चवयः in the ancient character. The upper prolongation of the *p*, perhaps, indicates an *anuswara*, and thus the reading may be पञ्चवयः *Panch-chhavayas*, 'the five excellencies;' to wit, of a king.—There is a fault in orthography, however, here, as in the legend of *Ghatot kacha*: the words should be written पञ्च वयः *Pancha-chhavayas*. Whether the word *chhavaya*, 'light,' may have any allusion to the five luminaries of the Mithraic worship; the sun, the moon, fire, Jupiter, and Venus, it is impossible to say:—but that a king should possess five virtues, we learn from various Hindu authorities.

Fig. 16. An unique in Captain CUNNINGHAM's collection from *Gaya*. The female of the reverse having in the last quitted her Grecian seat, has been here installed in one of a more genuine Hindu character—the lotus flower. There is a peculiarity also in her attitude, both hands being turned up, and the elbows resting on the knees. The legend is unfortunately cut off. On the *obverse*, however, to the left of the usual Rájá, we have in very conspicuous letters superposed in the usual style कुमरः *Kumara*—proving that this is a coin of KUMÁRA-GUPTA, the successor of CHANDRA-GUPTA the second, and thus far in accordance with the *Bhitari* monument. Lieut. CUNNINGHAM has another of the same prince, of quite a different type, (described in Vol. IV. page 637,) but what confirms KUMARA's succession to CHANDRA the second, is, that there are devices common to the two which belong, as far as our researches yet go, to no others,—as if on the accession of the new prince the mint had continued the preceding device, *mutato nomine*, until another was subsequently selected by the rising monarch. (See figs. 27 and 28, Plate XXXIX. Vol. IV.)

Figs. 17 and 18. For our acquaintance with the owner of the next coin in our series we are entirely indebted to Lieut. CUNNINGHAM. He first extracted his name from the *Bhitari-láth* inscription,—and subsequently traced it on these two unique coins in his own, and on

one of my collection, already published ; (fig. 24. of Plate XXXIX. Vol. IV.) Fig. 17 is from *Gaya*, and fig. 18 was dug up near a village four kos from *Ghazipur*.

On the *obverse*, the general attitude of the Rāja is the same as usual—the waist a little more fashionable, the gaiters absolutely those of the last century ! and the hair or wig commencing to be curled in parallel rolls, as will be more fully developed hereafter. The name perpendicularly disposed under the arm of both figures is quite clear, or स्कन्द *Skanda* ; while on the reverse of Fig. 18, it is as decidedly (in the old character) श्रीस्कन्दगुप्त *Śrī Skanda gupta*, the very name of the *Bhitari-lāth* successor to KUMĀRA.

On comparing the plates in the *Researches and Journal* of the coin given to me by Mr. BACON, many years ago, and then thought rather suspicious, Lieut. CUNNINGHAM soon found its legend to be identical with his own,—a fact fully confirmed by re-examination of the coin itself. These three, however, are the only coins yet known of this name. One of them No. 17, exhibits a new name on the reverse, for, unlike 18, it is certainly not *Skanda-gupta*, but क्रममन्दः *Kramamanda*, which may be looked upon as a rhyming epithet—“ equal to (or surpassing) *Manda*” (Saturn or Yama). Mr. TREGEAR has lately got a duplicate of this coin—in which the reading is rather क्रमवान्दः—one and both may possibly be intended for श्रीमहेन्द्रः *Śrī Mahendra*.

Figs. 19, 20. We now pass to another new acquaintance made out jointly by Lieut. CUNNINGHAM and myself on a general inspection of the *Gupta* coins. Fig. 19, is in the Society's collection, and is engraved as No. 14 of the Plates in the 17th Vol. As. Res. unread by professor WILSON. Upon recognizing the final letter न्द्र *ndra*, we soon perceived the preceding letter which I had before mistaken for a *ph*, or ण, to be the old ह, *h*, and thus with the vowel above it, the name was immediately cleared up as श्रीमहेन्द्रः *Śrī Mahendra*. Another coin from *Gaya*, belonging to Lieut. CUNNINGHAM, turned out to be of the same individual as to the reverse, with some variation in the legend of the obverse. Under the arm of the latter, the letter कु *ku* seems to denote a *Kumara* ; but on the margin are evidently the words जयते महेन्द्र *Jayaté Mahendra*. On the Society's coin, fig. 9, the marginal inscription is more complex—परमरजतर, as yet unintelligible ; then between the feet श्री *Śrī*, and near the hand the letter गु *gu* (of *Gupta*) the intervening name being cut off.

Pursuing the examination, we found the coins 29 and 30, of Plate XXXIX. Vol. IV. with the Rāja on horseback, and the seated female



Canouj Coins. Continued.



Copper Coins of Chandragupta



Second Series of imitations from the 'Ardekhra' type



feeding the peacock, to belong also to MAHENDRA-GUPTA. *Ajita Mahendra* on the reverse and *Mahendra-gupta* on the obverse of 30, are quite clear. I was before only misled by the letter *h*, which I read as the nasal *n* of the *lith* alphabet.

I shall have occasion to recur to this name in the next plate, which contains those new forms of the *Canouj* coin that are without the cornucopia female, and have not such direct analogy to their Mithraic prototype as is palpable in the whole of the reverses included in the lower half of the present plate.

Plate XXXVIII.

Figs. 1, 2. These two coins, from Mr. TREGGAR's cabinet, are variations only of the original coin given to me by Lieut. CONOLLY, now became celebrated as having opened the door to the understanding of the whole group. In that coin, however, the archer holds his bow in the wrong hand, whereas in the two present coins, and the one following, the position is rectified and the lion is better developed, particularly in Fig. 2. Besides adding these fine specimens to our series, Mr. TREGGAR has made out the true reading of the legend on the reverse. Instead of *Saccha* or *Pradya* the word is सिंहविक्रमः *Sinha Vikrama*, 'the lion hero,' which is consistent with the device, for it may be also understood as 'conqueror of the lion*.' To whom, however, this title is to be applied, would still have remained doubtful, but for the fortunate discovery of another coin by the same indefatigable collector in the prolific neighbourhood of *Jonpur*, while even I was engraving the present plate.

Fig. 8, the coin here alluded to, bears precisely the same device, with variation only of the attitude of the warrior. The legend is different, the part visible being on the *obverse*, श्री . तमहेन्द्र जय *Srī . ta Mahendra jaya*, and on the *reverse*, श्रीमहेन्द्रसिंह *Srī Mahendra Sinha*. Whether the *Mahendra* here designed be distinct from the MAHENDRA GUPTA of the cornucopia reverse, remains to be ascertained.

Figs. 3, 4, 5. From Mr. TREGGAR's collection. These three coins bearing the Rāja on horseback on the obverse, and a female seated sideways on a morha or wicker stool on the reverse, are essentially the same as were published in November last, (figs. 29, 30, Plate XXXIX. from Lieut. BURR's and my own coins) which I was then, however, unable to read satisfactorily, from misapprehension of the

* It is remarkable that in most cases the word *Sinha* (or more properly *Simha*) is written with an unknown letter superposed to the ह. This must be the nasal *m*, for which the *anuswara* is now substituted. In fig. 2 the letter is palpably an ञ, *m*, to which is subjoined the ह ञ; but in figs. 1 and 8, and in my coin, the letter has the form of ण.

letter *h*. The legend is in all exactly the same on the reverse, अजित महेन्द्र *Ajita Mahendra*: 'the unconquered MAHENDRA.' The female holds, in her right hand, variously, a flower, a noose, or food for an attendant peacock, like that of the *Kumára* coins.

On the *obverse* the legend is more variable.

In No. 3, we have the letters अजित पुव . . . तविक्र . . .

In No. 4, not legible. . तवि

In No. 5, हय . . not legible.

Fig. 6. (TREGEAR). This coin resembles in all respects the foregoing, excepting as to the legend, which is on the *obverse*, beginning at the top परमेश . . . न्द्रगुप्त: *Paramès (vara ? Cha or mahè) ndra-gupta*. On the reverse (the second letter being very clear on a duplicate coin in Capt. CUNNINGHAM's cabinet) अजित विक्रम: *Ajita Vikrama*. This name so closely resembles the common pronunciation of *Vicramajit*, (correctly written *VIKRAMADITYA*,) that although it may not belong to that celebrated sovereign, it is very possible that matters appertaining to the history of the one may have been transferred to the other, and hence some of the confusion, so perplexing to the historian, have originated.

Fig. 7. An unique lately procured by Mr. TREGEAR. The Rája on the *obverse* is of a peaceful character, with hand extended but no altar. A diminutive attendant holds a chatta over his head. The letters on the margin are not legible. On the reverse is the standing cornucopia female holding a well depicted lotus flower, with a lateral inscription which may be read विक्रमादित्य: *Vikramaditya*; but although the length of the subjoined *y* exceeds that usually found in the *d*, and the *di* is not much like the *ch*, it is probable that the word is after all only विक्रमचन्द्र: *Vikrama Chandra*: and we must not allow our sanguine imagination to rejoice in having at length hit upon a veritable coin of the author of the *Samvat* era; against which there is also a cogent chronological obstacle, in the date hitherto assigned to our dynasty of *Guptas**.

Fig. 9 (Tr.) is introduced as a new variety of the *Chandra-gupta* coinage: only differing from the numerous class before described in the legends, which are very clearly on the *obverse*, श्रीचन्द्रगुप्त: . . . *Srī Chandra-gupta*, (the titles not legible,) and on the *reverse* श्रीविक्रम: *Srī Vikrama*.

Fig. 10, of Mr. TREGEAR's collection, was engraved as a doubtful name, but I think it may be set down as belonging to *SKANDA-GUPTA*.

Figs. 11 to 15. This curious class of copper coins has not yet been brought to notice. They are indeed much more scarce than the gold coins of the same age, and hitherto only those of one individual

* Mr. TREGEAR has since written that on re-examination the word is palpably *Vikramaditya*.

of the family have been met with. It was not until Mr. TREGGAR's highly curious specimen, fig. 11, had furnished us with the style of CHANDRA's copper coins that we were led to re-examine our several collections, in which were found, and became legible, a few rare specimens of the same character.

Fig. 11 has the portrait of the Rāja on one side, with a smaller, perhaps female, figure on his left hand. On the reverse a front face of him is presented, leaning, as it were, on a window sill : below which in very well defined characters, . . . हाराज श्रीचन्द्रगुप्तः (*Srī ma*) *hārāja Srī Chandra-gupta*.

Fig. 12 is a demi-coin of similar stamp, one of two belonging also to Mr. TREGGAR : but on the reverse of this, as in all that follow, the device, is a bird, the same that figures on the military standard of the gold coins, and which Mr. WILSON says "looks more like a goose than a Roman eagle." The inscription is very well preserved, श्रीचन्द्रगुप्त *Srī Chandra-gupta*.

Fig. 13 is from Col. STACY's cabinet : the obverse, well executed, represents the bust of the Rāja holding a flower ; beneath, ओविक्रमः . *Srī Vikrama* ; the next letter may be च or म ; but on the reverse are distinguishable the initial letters श्रीच . *Srī Cha* . . . proving that the coin belongs to CHANDRA-GUPTA.

Fig. 14 is from Col. SWINEY's cabinet, in all respects a duplicate of the last, but the reverse legend is even more distinctly . . . चन्द्रगुप्त the lower part of the *ndra* only is effaced.

Fig. 15 had escaped notice in my own cabinet :—the head is more highly finished than in the other specimens, but the legend could not have been understood without their aid :—it is . . . न्द्रगुप्त . . . *ndra-gupta*.

Before quitting this very interesting group of coins, I must not omit to notice the only silver specimen which has yet come under my observation : it belongs to Dr. SWINEY, and is . . . a forgery !—not a modern one, but an actual false coin of the period when it was struck. It is of copper thickly plated, but the silver plate is worn through in several places, exposing the interior nucleus. I have depicted it in Plate XXXIX. *Fig. 21*.

Obverse, the Rāja in the original sacrificing attitude ; under his left arm the letters अजय *Ajaya* or राजय *Rāja y* . .

Reverse. Goddess (*Durga* ?) seated in the native fashion with cornucopia (or flower) and glory—a small elephant with trunk uplifted for protection, on her right shoulder. The marginal inscription श्रीप्रकणै *Srī Prakanau* . . . the last letter may be double *n*,—but in neither manner does it present an intelligible word.

Second Series of imitations.

We now pass to another series of coins evidently descended from the same '*Ardokro*' type coin to which the early Canouj group has been so satisfactorily traced. In the latter case we have seen that the Hindu artists soon quitted their original, and exercised a fertile invention in varying the device during several generations of princes: but in the coins we have now to notice, no claims to ingenuity can be advanced; unless it be for gradually barbarizing and disguising the original type, so that it would have been absolutely impossible to recognize the character of the extraordinary symbols on the later pieces, had we not a numerous train of specimens to produce, in evidence of the gradual deterioration. I had already more than once engraved specimens of this curious series, thinking them to be merely the link coins between the *Rao nano rao* and the early Canouj series. Among the Manikyála coins was the only silver coin of the set on which I had particularly remarked legible Sanscrit characters; which were of a form and age differing essentially from the Canouj coin alphabet (so called). But now through Capt. CUNNINGHAM's careful scrutiny of all our available collections, I am enabled to produce a host of variable legends, which may be the means of developing by and bye a second royal dynasty of some other Indian locality, as successfully as has been the case with the GUPTA family.

Henceforward my readers should understand, and they will, doubtless, soon perceive the fact, that my coin essays are joint productions, and that I have an auxiliary at my elbow, far better acquainted with the contents of, I may say, all the collections of coins in India, than I have leisure to become. With his zealous aid in hunting out the unpublished varieties of every class, I hope to make these notices complete as far as discovery has yet proceeded, and to do fuller justice to the numerous contributions I continue to receive from my numismatic co-adjutors in the interior.

That the present class is totally distinct from the last, may be argued on many grounds:—those are discovered in greatest quantity at *Canouj*, *Jonpur*, *Gaya*, and even occasionally in Bengal,—these are chiefly met with in Upper India, and in the *Panjab*. Capt. CAUTLEY has sent me one dug up in the foundations of his residence near *Seharanpur*; Mr. DEAN dug up some at *Samchana* near *Delhi*:—but the most important fact in their history is the extraction of one of the lowest members of the group from the Manikyála tope by General VENTURA. Mr. MASSON's large collection in *Afghanistan* does not contain one of this type, nor any of the first or Canouj series. They are, therefore, purely of Indian growth. To Upper India, the *Panjab*

or *Cashmir*, then we must turn our view in seeking the focus whence they were issued, and fortunately we have authentic lists of the sovereigns of some of these places to consult.

But first to enumerate the coins :—

Fig. 18. A gold coin (STACY) weight 120 grs.* deserves to be mentioned first, because the workmanship is nearest in perfection—in *imperfection* we might rather say,—to the ‘*nano rao*,’ or ‘*Ardokro*’ original. The legs of the couch, cornucopia, and drapery, are well defined. The *rāja* on the obverse has his trident standard, and his right hand outstretched as over the fire altar, but the altar is omitted. Under the right hand of the *rāja*, both in this coin and in figs. 16 and 20, occur the letters पश *pasa* either side by side as in 16, or superposed as in 20. Under the left arm, which is elevated to hold a spear, is another perpendicular combination of two or three consonants, apparently स क, and इ with the vowel ए *e*. The same monogram (or rather polygram) continues through the whole series. I formerly took it for a sword handle, which it exactly resembles when the lowermost letter is hid.

Fig. 20. (STACY) the next best in execution, has the letters श्री *Sri Kri*. . . visible on the left of the female.

Fig. 19. (TREGGAR :—duplicate, CUNNINGHAM) continues the word ; कृगोधाय *Krigodhāya* ? or *Kribhodhāya*.

Figs. 16 and 17 of my cabinet have the letters श्रीविश्व . . . *Sri Visva*. . . or *Vikha* on the former, and पसल . . . *Pasala*. . . (or perhaps *Visala* ?) on the latter.

Numerous other specimens in gold might be enumerated,—but they generally contain even less satisfactory fragments of names than the above. All that can be positively asserted is that the letters are Sanscrit, and, on these at least, of the same alphabet as that we have designated No. 2 of the *Allahabad* lāth.

The silver coins of this second series are much more scarce than the gold and copper ones.—The three I possess, represented in figs. 1, 2, and 3, appear also to be of a very debased standard, and to belong to a much later period. None of them retain more than the rudest semblance of the *rāja* figure—and still less of the goddess ;—the latter has even been taken for a dagger, the former for a scorpion ! The letters also are of a more modern formation, not differing much from those of the tenth century, found at *Sárnāth* and other places. Captain CUNNINGHAM first pointed out to me the words श्रीप्राताप *Sri Prātāpa*. . . on figs. 1 and 2.

* The weight of all these coins is nearly the same, being in fact the *di-drachma* of the Greeks.

Plate XXXIX.

On fig. 3, on a former occasion I had already read श्रीयग . . . *Srī Yag.* . but as there are traces of a cross-line to the loop of the third letter, I am inclined to adopt rather the reading यग . . . *Yasa* . . . *Yasa* glory, forming in composition many Indian names, as *Yasa Vighraha*, *Yas o Varma*, *Yas o Pāla*, *Yaswant*, &c.

The two earliest specimens of the copper series, figs. 4 and 5, are from Col. STACY'S and Capt. CUNNINGHAM'S cabinets respectively. The first has several letters of the old character:—under the left arm perpendicularly सयध . *Sayadha*, and on the exterior मक . *maka*.

Fig. 5 is, in reality, a forgery of a gold coin: the remains of the ancient gilding are still perceptible in the angles. The monogram is the same as in fig. 18, of the last Plate.

Figs. 8 and 9 are selected from Col. STACY'S box as examples of the name of श्रीप्रातिप, *Srī Pratāpa*, in the two forms of alphabet.—Probably they belong to different individuals of the same family name.

Fig. 8, is a valuable unique in Col. SWINEY'S drawers, with a multitude of letters that have usurped the natural position of arms, cornucopia, throne, and all such appurtenances!—On the obverse are the letters जय *jaya*: on the opposite face, श्रीविनाद *Srī Vinada* or बिरव *Virava*. . and to the right म (?) न्देद *mandèd*. . .

Fig. 9. The word *Srī* is still perceptible.

Fig. 10 is but introduced (from my collection) to shew the complete barbarism that finally prevailed. Such rude pieces are to be had in plenty, for one that contains a trace of writing. *Pratāpa* is the commonest name on those that are by any means legible.

Third Series of imitations.

The next five coins of my Plate represent a very numerous class of Hindu coins, grotesque but very bold in execution, and attempting refinement in the position of the right hand of the *rāja*, and in the sitting posture of the reverse. Having pointed out the prototype of the European coat, pantaloons, gaiter and wig on one series, I must not pass unheeded the *epaulette* so faithfully and curiously portrayed on the obverses of this series! I am induced to consider them a third instance of imitation of the *Ardokro* type from their general aspect and attitudes:—moreover the cornucopia is traceable in the earlier pieces as figs. 13 (STA.) and 14 (J. P.) As they deteriorate, the limbs are lopped off as usual to make way for *Nāgarī* characters! This is well exemplified in fig. 11 (CUNN.) and 12 (STA.) Fig. 17 (SWI.) may be regarded as the ultimate degradation of the type.

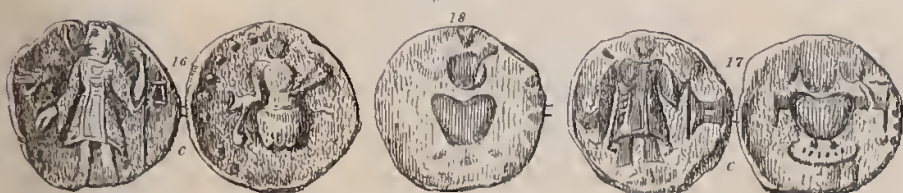
Second Series Continued



Third Series, of imitations

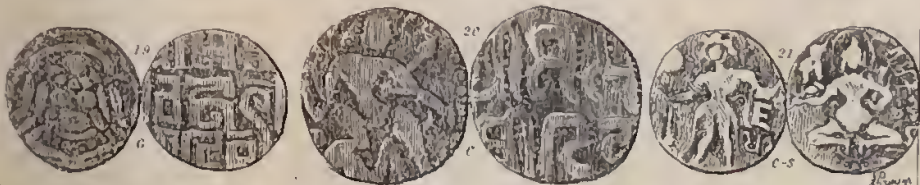


Fourth Series, of imitations



Dein dynasty of tinouj

See 1st Series



Of legends we have in fig. 15, on the margin . . यो . . *yo* . . On fig. 16, reverse, the letter ज *ja*. On fig. 11, on either arm of the sitting figure श्रीदि *Srī di* ? and on fig. 12 several uncertain letters scattered about मय न य. In the last of the set, the letter ग stands alone.

It would be in vain to attempt any explanation of such vague symbols. Of this series of coins M. COURT's drawings contained many good samples. They are plentiful in the *Panjab*, less so in Upper India, and comparatively rare in *Afghánistán*. Mr. MASSON has only given one, and that very degraded.

Fourth Series.

These shadows of the *Kanerkán* king are alike DUNCAN's issue,—“a fourth?—start eyes! what will the line stretch out to the crack of doom? another yet?”—Such is, however, the singular fact; whether they “reigned in this kingdom” consecutively, or in subdivided portions of it, there can be no doubt of the common source whence these numerous progeny have borrowed their family features. Amid the hundreds of each kind, now open to our examination and selection, the progress of deviation can readily be followed: and it is not a little curious to see the different results of corruption arrived at by different engravers or moniers, in the course, perhaps, of a few generations. In one case we come to a kind of dagger—in another to a few dots and strokes—and in the present instance to a kind of heart, formed of the knees and petticoat of the seated female! The best of the three coins depicted in the engraving are from MOHAN LA'L's collection; the worst from Capt. CAUTLEY's disinterred *Behat* relics, where a large proportion of these *heart* coins was found in association with the supposed Buddhist coins, described in my essay of last November. I can find but one approach to a letter on any of them, viz. the वि to the left of the well formed Rāja in fig. 16. It is hardly sufficient to confirm their Indian origin: and it must be noted that this species is found in abundance farther to the north-west than any of the others.

Thus Mr. MASSON says of them: “this series is very extensively found in western *Afghánistán*. The *obverse* has a rude figure of the prince, clad in mail with the accompaniment of the fire altar,” (not visible in ours, but clearly so in M.'s drawings) “and on the reverse a figure seated on a throne with her foot on a footstool. On no one coin of the class have I been able to detect the legend, although they appear in some instances to have had characters intended for such. Figs. 61 to 63,” (those that shew the chair, the cornucopia and noose) “are generally found at *Beghrām*, figs. 64 to 66,” (those having only the outline of a heart,) “are the types prevalent

on the banks of the Indus and in the *Panjab*,"—and, as we have stated above, near *Seharanpur* in India proper. This series has, undoubtedly, a better claim to be considered the genuine descendant of the *Ardokro* coin *in situ* than any of the three preceding series.

To sum up my review of these coins, I cannot help remarking how great an analogy exists between the circumstance of these several adoptions by subordinate imitators, of a predominant form of coinage that had perhaps prevailed for centuries under a paramount rule; and the nearly parallel case of the *SHA'H A'LAM* coinage of the last century, the very words and form of which were copied by the numerous *râjas* and *nawâbs*, who assumed the privilege of coinage upon the dismemberment of the *Delhi* monarchy. In many places, a few years only, have sufficed so to disfigure the Persian letters, as to render them quite illegible and barbarous.

Pála or Déva dynasty of Canouj.

By way of filling the plate, I have engraved at foot, two new specimens of this dynasty, brought to light since the publication of Plate L. Vol. IV.

Fig. 19 is taken from a cast of a gold coin, in Col. T. P. SMITH'S possession. Some of the letters are new in form, but they may possibly be read *श्रीमद्विग्रह पाददेव* *Srī mad Vīgrahapāla deva*.

Fig. 20 is an unique copper coin of Capt. CUNNINGHAM'S. On the obverse, the four-handed god is crushing a demon—instead of being seated in the usual serene attitude. The legend on the other side may be read, *श्रीमत्प्रिथीदेव* *Srī mat Prithī deva*, a name occurring in the *Delhi* list as having reigned at *Lahore* A. D. 1176—1192: but not to be found among the many names which inscriptions have given us of the *Bhupāla* family of Canouj and Benares.

Mr. MASSON has figured a third new name of the same group, which I have inadvertently neglected to introduce in this plate as I had intended. The letters that are visible are *श्रीम... मीरमरु... देव* *Srī ma... mīramas... deva*. The first and last letters are half cut off, and the vowel may be an *á*, so that the reading may possibly be *Srī m(at Ku)māra mah(á Rāja) deva*. Mr. MASSON says that "at *Kábul* coins of this peculiar type are met with occasionally in the bazar, generally of gold. A large parcel was dug up out of the soil, three or four years ago, near *Korinder* a village of *Koh-daman*." He places them as the last of the Indo-Scythic series, not having, at the time of writing, seen what had been made of them here. If indeed the sitting female be a far descendant from the Mithraic goddess, the long interval of six or eight centuries will fully account for the magnitude of her transformation.

It is a great pity that the horde discovered at *Korinder* was not secured at once. It might have contributed very materially to our classification of this second *Canouj* dynasty. A great many specimens of the same sort must also be scattered about in the cabinets of retired Indians at home; and we may hope now that Professor WILSON has commenced upon the task of examining the coins in the Royal Asiatic Society and India House collections, specimens will flow in to him from all quarters to be decyphered and described.

V.—*Facsimiles of various Ancient Inscriptions, lithographed by JAMES PRINSEP, Secretary As. Soc. &c.*

[Continued from page 561.]

Inscriptions from Buddha-Gaya, Plate XXX.

The neighbourhood of *Gaya* has long been known to be prolific of inscriptions:—yet, notwithstanding the various notices of them which have appeared in the *Researches*, of the Bengal, and of the London Societies, the theme is, as yet, by no means exhausted. Mr. HARRINGTON furnished our Society at a very early period after its institution with copies of two inscriptions from the principal cave, lying in the hill of *Nagarjuna*, (the name, it will be remembered, of a celebrated Buddhist patriarch,) one of which was decyphered by Dr. WILKINS, and proved to be a record of the excavation of the cave by ANANTA VARMA, the grandson of YAGNA VARMA. The date is not given, but the character (No. 2 of the *Allahabad lith*) shews it to belong to an early century of the Christian era. Mr. HARRINGTON mentions several other caves and inscriptions which have not yet been examined.

Dr. WILKINS also translated one inscription copied from a stone by Mr. WILMOT in 1785, (*As. Res.* vol. i. 284,) dated Samvat 1005, purporting that AMARA DEVA, the author of the *Amera kosha*, built the temple of Buddha at *Buddha-gaya*.

Dr. HAMILTON (*Roy. As. Soc. Trans.* vol. ii. 44,) in his account of the ruins of Buddha Gaya, alludes cursorily to inscriptions on two images of *Gautama*, recording their erection, one by JAYA SEN and KUMA'RA SEN, sons of PUNYABHADRA, son of SAMANTA, all untitled persons: the other by Rāja VIJYABHADRA, of whom nothing more is known.

The Burmese inscription found by the Embassy in 1831, was of a more interesting description. It is described in the *Journal* (vol. iii. page 214), and more fully by Colonel BURNEY in the last volume of the *Researches*. It was upon the occasion of my requesting Mr. HATHORNE, then magistrate of *Gaya*, to take a duplicate of the Bur-

mese facsimile, that this gentleman went beyond his commission, and kindly furnished me with facsimiles of several other inscriptions in the neighbourhood of the ancient temple, all of which, he says, are quite illegible to the learned pandits of *Gaya*.

"No. 2, (No. 1 being the Burmese inscription) he writes, is on a stone lying near the *Mahá Buddha* temple." A copy of this, noted by HAMILTON as 'an inscription of considerable length,' appears to be deposited in the E. I. C.'s Museum, labelled No. 113, but no further account of it is furnished. It is this inscription which I have lithographed in Plate XXX; but before proceeding to its discussion, it will be better to notice the other items of Mr. HATHORNE's dispatch.

"No. 3 is an inscription on a stone, inserted in the wall of a Brahman's house erected on the site of the old fort, said to have belonged to Rájá AMÍR SINGH, who went over to the Burman empire, became converted to the Bauddha faith, and died in that country." This is evidently the inscription translated by WILKINS; the Rájá AMÍR being the AMARA above mentioned, : and the story of his conversion has merely been altered a little in repetition, and mixed up with the more recent collisions between the Burmese defendants of the shrine and the Rajput expeditions against these infidels in the 12th and 13th centuries. Perhaps the similarity of the name to the celebrated HAMPIRA SINGH of *Chitor* may have helped to confound the tradition. It is unnecessary to republish this inscription.

"No. 4 is inscribed in a circular form over an image of *Deví* in the *Mahant's* garden." This, again, is alluded to by Dr. HAMILTON as No. 99 of the India House museum, "on a *male* figure now called *Saraswatí* (a goddess), is the usual pious sentence of the Buddhist." It is useless to lithograph this inscription, which does not differ even in the form of the letters from the "*Yè dharma hetu, &c.*" of the *Sárnáth* and *Tirhut* images.

"No. 5 is a word engraved on a pillar which now forms one of the stanchions to an upper story in the convent. The character you will observe assimilates to the ancient inscriptions." This I have found room to insert in Plate XXXIII., but it is impossible to make any thing of it: perhaps it formed part of a longer inscription in the oldest láth character.

No. 2, then, is the only one of the series which requires further observation. From my acquired experience in such matters, there was little difficulty in transcribing the whole from the facsimile (lithographed on a reduced scale in Plate XXX.) into the modern Nágari, nor in preparing a translation with the assistance of the Society's pandit, and of RATNA PAULA, whose acquaintance with the Buddhist

tenets enabled him to correct the former in several doubtful readings.

The character may be properly designated as the *Gaur* alphabet, the parent of the modern *Bengalí* form. The specimen is chronologically valuable to the investigation of the gradual alterations it has undergone, because it contains a date, *Samvat* 73 or 74, of an era that has been the subject of some misapprehension. Mr. COLEBROOKE rectified Dr. WILKINS' mistake in supposing this *sambat* could refer to the era of VIKRAMÁDITYA, and assumed a position for it 1000 years more modern, in connection with the *Gopala* or *Bhupála* dynasty of *Gaur*. The document before us corroborates this view; but by the expression, "after the expiration of the reign of LAXMANA SE'NA," it would seem that the term *samvat* applied generally to whatever epoch might be mentioned in the preceding sentence. LAXMANA SE'NA, the son of BELAL SEN, who built the city of *Gaur*, reigned in A. D. 1116—1123: so that the date of the inscription on this supposition would be A. D. 1197, only three years prior to the destruction of the monarchy by the Musalmans. The figures, however, are unfortunately doubtful, just where their identification is of the greatest consequence:—the first might be read as the *Nágarí* 1, were not the numerals of the month so clearly of the *Bengalí* form. If counted from the foundation of *Gaur* in 1066, the date would fall in 1140. Were there any possibility of assuming a starting point on satisfactory data, the day of the week, Thursday, would afford a sure test of its being correctly fixed, by the calculation of the luni-solar period elapsed: but according to the formula in my calendric tables, neither of the epochs above selected will bring about such a result.

The following is the transcript of the facsimile in modern *Nágarí*. One letter after *Namobuddháya* is illegible, and the next word is consequently doubtful: *anusvara* is substituted for ड.

नमो बुद्धाय संकल्पोयं प्रवरमहावीरस्वामिनः परमोपासकस्य दैवज्ञचरणारविन्द
मकरन्दमधुकरहृत्कारभूपालवेश्मोत्पन्न कृष्णवृत्ततिगण्डनारायणरिपुराजमत्तगज
सिंहनिखिलमहीपालजनकेत्यादिनिजनिखिलप्रशस्तिमलंकृतं सपादलक्षशिखरि
खसमेण राजाधिराजश्रीमदशोकचन्द्रदेवकलिष्ठभाटश्रीदशरथनामधेयकुमारपादप
द्मोपजीवि भाण्डागारिकसत्यव्रतपरायणा विनिवर्त्तनीयवोधिसत्वचरितस्तन्नि खकुल
दीपश्रीसहस्रपातनामधेयस्य महात्मकश्रीचाटव्रह्मसुतस्यमहामहात्मकश्रीमृषित्रिहोपाच
रस्ययद्वपुष्णं तद्वह्महाचार्योपाध्यायमातापित्रपूर्वाङ्गसङ्गतासकलपुण्यराशिरनन्तवि
ज्ञानफलावाप्तयदति श्रीमल्लक्षणसेनदेवपादानामतीतराज्ये

सं ७४ वैशाख वदि १२ गुरैः

Translation.

“Salutation to *Buddha*.—May this votive aspiration of the devoted v. 11ary to *Mahāvira Swāmi**—(Of him who is) in holiness like the blue-bee steeped in the honied lotus of the feet of a divine personage, and in might like the lion triumphant over the infuriate elephant, who reigns over the royal and puissant progeny of *Hulkara Bhupa’la*, named *Krishna Nripati* and *Garudana’kayana*, his inveterate antagonists—who is himself the gracious father (protector) of tributary kings—who, adorned with such might and virtues, sways the imperial sceptre over 125000 kingdoms well people with mountaineer warriors—the king of kings—the auspicious and high in dignity *Asoka Chandra Deva*,—(of the aforesaid *Rāja*’s) younger brother, *Dasaratha Kuma’ra*, supported and maintained through the lotus of his gracious feet, his dependent treasurer, a conscientious *Bodhisatwa*—the light of his tribe and family, by name *Sahasrapa’da*, son of the dignified *Sri’ Cha’ta Brahma*, and grandson of *Mrishi Brahma*—may (this his holy act), united with the virtues of his teachers and *guru*, his mother and father, enable to attain the fruit of immortal wisdom, salvation from passions and delusions of sublunary existence, and absorption of his soul in the Supreme Being.”

“Written after the conclusion of the reign of *Sri mat Laxmana SENA Deva*, in the year 74, on Thursday, the 12th day of the dark half of the month of *Vaisakha*.”

The inversion of the sentence, and the multitude of epithets applied to each party, makes it difficult for an English reader to follow the sense through such a labyrinth:—in a few words, it prays that some good act (probably the building or endowment of a temple) may redound to the eternal welfare of one *Sahasrapa’da*, the treasurer of *Dasaratha Kuma’ra*, the younger brother of *Maharāja Asoka Chandra Deva*, the reigning prince of a dynasty that had supplanted by conquest some descendants of the *Bhupala* family, (of *Gaur* doubtless,) by name *Krishna* and *Garudana’ra’yan*. All these names and persons I believe are new to history: at least I find no *Asoka* among the successors of *Bela’l Se’n*. From his assumption of such a name it may be presumed that he was of the Buddhist faith, as the invocation shews to have been the case also with his officers of state.

* *BUDDHA*, the transcendently victorious hero. The construction of the sentence, which it is endeavoured to follow closely, will be hardly intelligible without explaining that this first epithet belongs to *Sahasrapa’da*, whose name occurs lower down.

Bhitari Látth.

On the same plate I have lithographed from a drawing by Captain CUNNINGHAM an elevation of the *Bhitari látth* in the *Ghazipur* district, of which so much have been said. It was Mr. TREGGAR who first brought it to notice in 1834; he sent me a rough pencil sketch, and promised further examination. This was accomplished in company with Captain CUNNINGHAM; when on clearing away the earth from the lower part of the shaft a long inscription was discovered. It was immediately seen to be in the same character as No. 2 of the *Allahabad látth*—and while taking a copy of it in pencil, the names of Rájás SRI' GUPTA, GHATOT KACHA, CHANDRA-GUPTA, SAMUDRA-GUPTA, were found following in succession, exactly as on the *Allahabad* inscription—other names, CHANDRA-GUPTA, KUMA'RA-GUPTA, and SKANDA-GUPTA, succeeded; proving that this pillar had been erected several reigns subsequently to the other, and confirming in an extraordinary manner the concatenation of the *Canouj* coins of this very Gupta family, as has been noticed in a preceding paper.—More need not be said at present, as the inscription itself will appear next month with Dr. MILL's interpretation and valuable comments.

There are two other pillars near *Ghazipur*, at *Zamineah*, south of the *Ganges*, from which great expectations were entertained, of our making a further acquisition—but we have just been disappointed. Col. POVOLERI writes me, that Mr. MURRAY has closely examined the principal pillar without finding any trace of writing on it; he is about to dig around it, however, for the square portion of the shaft may possibly be buried below the soil. This is our only chance.

VI.—*Sub-Himálayan Fossil Remains of the Dádúpúr Collection.* By
Lieuts. W. E. BAKER and H. M. DURAND, *Engineers.*

GENUS *Sus**.

CUVIER has confined his remarks upon the fossil remains of the genus *Sus* to a brief notice of their existence, in consequence, it appears, of the fact that up to the time at which the *Recherches sur les Ossements fossiles* were published, the instances of the occurrence of fossils of this genus were rare; and of the small number discovered the greater portion had been found in peat. The tables given in the

* The Plates B and C mentioned in the ensuing descriptions, have been incorporated in Plate XLIV., and had been reserved for the *Researches*, on account of their dimensions; but we see they are necessary to the article, and have inserted them with Col. COLVIN's lithograph.—ED.

latest geological manuals show, that in the interval which has elapsed since the publication of CUVIER's work a few sites have afforded specimens, but still the remains in comparison with those of other genera are far from being abundant. By reference to the table of Sub-Himálayan fossil genera in the 53rd No. of the Journal of the Asiatic Society it will be observed, that, although here found in greater quantity than in European localities, the relics of the genus are, in comparison with those of most of the other Pachydermata, scarce. Notwithstanding their small number, the specimens in our possession, happening in general to be tolerably perfect, form a series which, though not continuous, is sufficiently perfect to illustrate the dentition of one of the species.

To the consideration of this species we without further introduction proceed; premising only, that with the exception of the cranium of which fig. 6, Pl. B, is a representation, the whole of the specimens referred to are from the *Maginand* deposit, a general description of which prefaces our notes on the fossil unicorn-rhinoceros.

CRANIUM. The fossil, of which figs. 1 and 2, Pl. XXXIV. are representations, is the cranium of the sow of the species to be described. The specimen has been less crushed than is usual, but has not altogether escaped. The nasal bones are not quite central, and in their natural position, being thrust over towards the left maxillary by a crush which acted on the right side of the head. The mastoid apophyses and the descending tubercles in their front are broken off; the extremities of the pterygoid apophysis are also mutilated:—the zygomatic apophysis of the temporal, if perfect, cannot be cleared completely from the matrix which adheres to it, without the risk of destroying the process itself and the adjacent parts: both jugals are imperfect, being broken off (as shewn in the profile view of the skull) immediately after their descent from forming the post. orbitary apophysis: the canines are wanting, but their alveoli are very distinct, though small for the size of the head; this circumstance, in conjunction with the minor development of some parts of the occiput when compared with other specimens, indicates the sex of the cranium.

With the view of obtaining the difference of proportions consequent on differences of sex, the measurements which form the third column of the subjoined table were inserted; the half palate of the cranium from whence they are derived is given at fig. 5, Pl. B, but the occiput and nasal bones being imperfect, it was not deemed necessary to delineate the specimen either in plan or profile.

The second column of the table is occupied by the proportions deduced from the dimensions taken upon the cranium of the sow; and

the first column by those obtained from the head of a wild boar killed in the neighbourhood of *Hansi*. These two skulls denote, by the state of their molar teeth, very similar ages, the existing being but little younger than the fossil species; they are therefore well adapted for a comparison.

| | Existing species. | Fossil species, Female. | Fossil species, Male. |
|--|-------------------|-------------------------|-----------------------|
| Space occupied by seven molars measured on mesial lines, | 1,000 | 1,000 | 1,000 |
| From lower edge of foramen magnum to extremity of intermaxillary, | 2,672 | 2,586 | .. |
| Space between the 9th molars at their anterior, | 0,210 | 0,193 | 0,257 |
| Ditto ditto 1st ditto, | 0,371 | 0,356 | 0,418 |
| Distance from 1st molars to extremity of intermaxillary, | 0,858 | 0,680 | .. |
| Ditto from lower edge of occipital foramen to posterior edge of 7th molars, | 0,825 | 0,922 | .. |
| Ditto from summit of occiput to extremity of intermaxillary, | 3,267 | 2,940 | .. |
| Breadth of frontal plane at post. orbital apophysis, | 0,876 | 0,831 | 0,928 |
| Ditto of parietal plane at narrowest part, | 0,358 | 0,241 | 0,301 |
| Greatest breadth across zygomatic process of temporal bones, | 1,323 | 1,280 | .. |
| From anterior of orbit to extremity of intermaxillary, | 2,079 | 1,934 | .. |
| From anterior of orbit to point of post. orbital apophysis, | 0,362 | 0,317 | .. |
| Diameter of orbit perpendicularly to line of molar, | 0,365 | 0,280 | 0,290 |
| From point of post. orbital apophysis to lower edge of jugal, | 0,562 | 0,553 | .. |
| Height of occiput from lower edge of occipital foramen to summit, | 1,073 | 0,893 | .. |
| Breadth across occipital condyles, | 0,487 | 0,449 | .. |

Having only one specimen of the existing species, we shall draw no conclusions from the difference of size observable in the two species, as shown by the table of dimensions which closes this paper; but, confining ourselves to the discordances displayed by the above table, in which the length of space occupied by the seven molars is chosen as the unit of comparison, shall notice the following circumstances.

The molars with reference to the length of the head as measured from the foramen magnum to the extremity of the intermaxillaries, occupy more space, and are situated at a greater distance from the foramen magnum; there is, consequently, a less interval between the anterior false molar and the extremity of the intermaxillaries in the fossil than in the existing species: the palate is also somewhat narrower.

The mesial line of the occiput is in the fossil nearly perpendicular to the plane of the palate, agreeing in this respect with the cranium of the hog which forms the subject of Cuvier's description: but in the wild hog of *Hariánah* this mesial line makes an obtuse angle with the palatal plane; thus causing the dimension from the crest of

the occiput to the anterior extremity of the intermaxillaries to be proportionately greater than in the fossil.

It will be observed, that the male, with exactly the same space occupied by its molars as by those of the sow, has a greater frontal and parietal breadth of upper plane of the head. In both fossils there is, in the frontal plane, a total absence of convexity: as this plane ascends, there is a tendency to concavity, in consequence of the parietal crests being more strongly marked than in the existing species, and thus producing the appearance of a gentle hollow where in the common wild hog there would be a gentle swell.

The orbits are in the fossil proportionately less, situated higher, and more forward in the head; their horizontal is greater than their perpendicular diameter, whereas in the existing species these are nearly equal: the post. orbital apophyses of the frontals are not so salient, and those of the jugal bones are less distant from the anterior of the orbit than is the case in the existing species.

Considering the sex of the fossil cranium, the saliency of the zygomatic arches correspond in the two species.

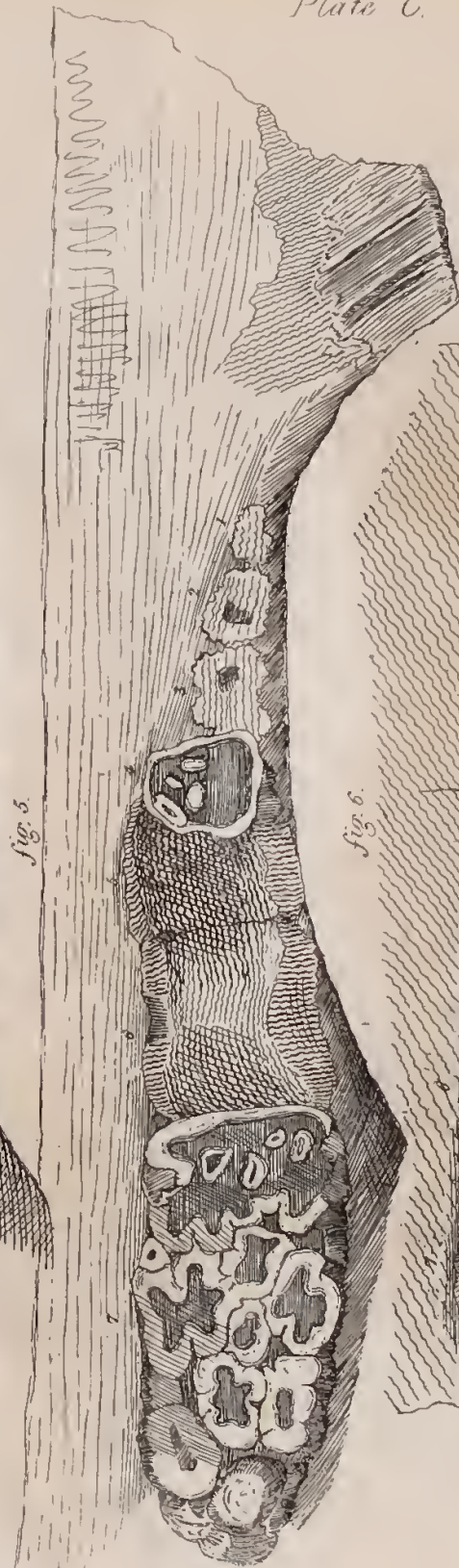
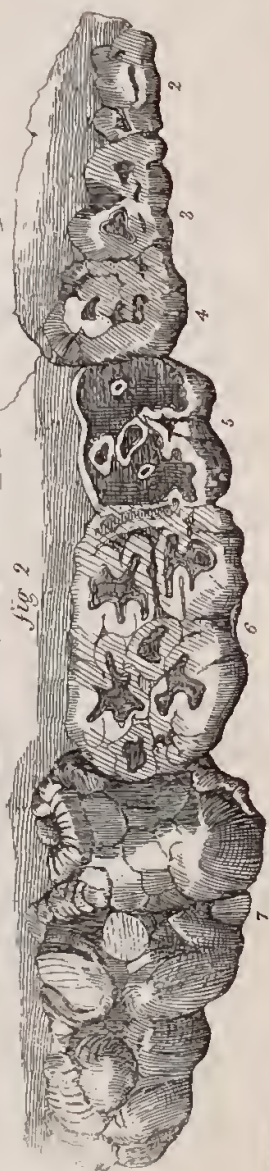
On reference to the table of measurements, it will be seen that the occiput of the specimen third in the table is, in consequence of having belonged to a male, larger than that of fig. 1, Plate XXXIV. The specimen here alluded to possessing only one molar, could not be introduced into the foregoing table of proportions: supposing, however, the space occupied by its molars to have been equal to that of fig. 1, Plate XXXIV. and fig. 5, Plate B, the height of this occiput yields a proportion of 1.071, which is very similar to that obtained for the existing species. The breadth across the condyles is comparatively less in the fossil; but the transverse breadth of the occiput at the broadest part is more developed than in the existing species.

No sutures can be traced in the fossils. From the foregoing remarks it is evident that in several respects the species differ. We shall now proceed to examine the dentition, which presents a few modifications worthy of notice.

Upper jaws. The plane of the palate extends backwards behind the seventh molars, even further than in the common hog.

The teeth correspond in number with those of the existing species, the incisors being $\frac{5}{5}$ canines $\frac{1}{1}$ — $\frac{1}{1}$, molars $\frac{7}{7}$ — $\frac{7}{7}$.

With exemplars of the earlier stages of the dentition in the upper maxillaries, we are not well provided: a small fragment containing the 3rd and 4th molars but slightly worn, shows that the 4th milk tooth resembled that delineated by CUVIER in his Plate 1, fig. 6; but the 3rd molar, though composed of similar parts, is a little longer





and more tapering than the one in fig. 6. Between this the initial step in the dentition, and that in which the 6th molar is making its appearance, we have none of the intervening stages. A cranium which has not been drawn in consequence of the mutilation of all the molars except the 5th, shows the 6th tooth in the act of cutting the jaw: the anterior extremity of the intermaxillary being broken off, the incisor teeth are not perfect, but by the fracture the permanent incisors are in part laid open, so that the milk ones must either have already fallen or have been on the point of so doing: the latter is the most probable, as the lower jaw of this cranium, of which fig. 2, Plate C, is a representation, has the first set of incisors still in the jaw, though much worn; of course the state of detrition of the molars of the upper corresponds with that of the teeth of the lower jaw; the 4th molars are very much worn, the 5th has commenced to be in use, and the 6th is showing the summits of its collines; it appears to be during the progressive wear of the 5th and the descent of the 6th molar that the milk teeth are shed and replaced by the permanent ones; for fig. 1, Plate B, which represents the right half of a specimen, has no vestige of the milk teeth, but shows the permanent molars Nos. 1, 2, 3, 4, and 6 unworn.

As the animal increased in age and the 7th molar gradually descended, the teeth already in use assumed the appearance exhibited by fig. 2, Plate B, which represents the left half of a fossil upper jaw: this and the foregoing specimen, fig. 1, show that the 1st, 2nd, 3rd, 4th, 5th, 6th molars, excepting in size, correspond with those of the existing species, each tooth being compounded of the same parts, even to the small external interstitial pillars of the 5th and 6th. The 7th is in fig. 2 quite untouched, only the anterior portion of the tooth having, in fact, been exposed; although in consequence of the breaking away of the posterior part of the specimen the whole of the molar is now exposed. Compared with a germ of the existing species, it is found to be composed of analogous parts, the general shape of the fossil tooth being at the same time modified in consequence of the greater size to which the posterior collines or mamillæ attain: hence the tooth is comparatively longer and less tapering.

Fig. 5, which represents the left half of a fossil cranium, shows the 7th molar in great part brought into use, and the corresponding progress in the detrition of the other teeth. In fig. 3, Plate B, which is a view of the left half of the palate of the cranium fig. 1, Plate XXXIV., the whole of the last molar has been brought into use. The 1st molars are in this specimen mutilated, the others evince the wear

due to a more advanced age than that to which the fossil fig. 5 had arrived.

Fig. 4 is the left half of a fossil cranium, in which the two rows of teeth have accidentally worn irregularly ; the left side is given, being the one in which the enamel curves of the last molar have assumed forms which, on comparison with the foregoing specimens, will be found slightly to differ. The corresponding tooth in the right maxillary is both considerably longer than its fellow, and bears a greater similarity to those of the other skulls. The canines of the male were large and ribbed on the upper surface, but the fossil upper jaws presenting none perfect, their shape and direction are not ascertainable : a detached fragment indicates a wear similar to that which occurs in the tusk of the wild hog : from the lower jaws little can be deduced, fig. 3, Plate XXXIV., being the only adult one which possesses the canines perfect. This specimen would have accurately indicated the wear had it been possible to clear the canine of a thin hard coating of the matrix, which, though not sufficiently thick to affect the general shape of the tusk, conceals the worn, and does not allow it to be distinguished from the unworn, surface.

The canines of the female were small, as may be seen by the alveoli of fig. 3, Plate B.

The incisors in fig. 3, Plate B, are much used : only four are visible ; the matrix, which cannot be altogether cleared from the anterior of the palate, probably conceals the alveoli of the posterior incisors.

Lower jaws. The early state of the milk teeth when the 4th or tripartitioned molars is commencing to be used, is exhibited in the fragment of which fig. 1, Plate C, is a representation ; the 5th molar is also here seen prior to undergoing detrition.

The next stage exemplified by a specimen, is that in which the 5th is a little worn ; the 3rd and 4th are a good deal so, and the 6th is just showing the tops of its collines ; the central early incisors are much used, but not yet shed ; the posterior ones are already replaced by their permanent successors, and the canine is showing its point : this jaw, as before remarked, was found together with its cranium.

By the time that the 5th molar is much used, and the 6th a little so, the milk teeth are all cast, and the permanent ones in use. Fig. 3, Plate C, exemplifies this step ; here the 7th molar is half developed, the 2nd, 3rd, and 4th are slightly abraded ; the canine, which is broken at the point, rises with a gentle divergence, and instead of the triangular section observable in the tusk of the existing species, has one nearly elliptical, being only somewhat flattened at its posterior edge.

The specimen, not coming from an adult animal, affords no trace of any friction having commenced to take place between the upper and lower canines, the latter being intact: in this respect the fossil corresponds with the existing species, in which, to judge from a skull in our possession, the canines do not meet until the development of the 7th molar. The posterior incisor is present in neither half of the jaw,—a circumstance which fig. 4 proves to be accidental, and that the shape of this incisor is peculiar and distinctive. The central incisors are large, and protrude more horizontally than in the existing species. The right side has been crushed towards the left side of the jaw, so that the angle formed by the two halves at their symphyses cannot, from this specimen, be ascertained.

Fig. 5 is a fragment in which the 7th molar is nearly clear of the jaw, and has its anterior portion a little worn, but the central and posterior parts untouched. Nos. 3, 4, 5, and 6 are of course in a more advanced state of detrition than is the case with those of fig. 3.

The next condition illustrated is that in which the 7th molar is completely developed from the maxillary and in use; No. 6 is much worn, No. 5 nearly obliterated, and Nos. 2, 3, 4, and even No. 1, are in progressive wear. Fig. 4, which illustrates this state of the teeth, is from a nearly perfect fossil jaw; the specimen has lost the left condyle, and has the parts adjacent to the right one broken off, as shown in the profile view fig. 6; the left canine is snapped off close by the bone, and thus presents a sectional view: the left hind incisor, though not actually affixed to the specimen, was found in the same block,—a fact which in connection with the general state of the specimens, argues quiet deposition.

The molars of the lower jaw, like those of the upper, bear a close resemblance to those of the existing species; the incisors and the canines are, as above noticed, distinctive; and by reference to the table of dimensions it will be seen that the symphysis is in the fossil shorter in comparison to the length of the jaw, and the angle formed by the two sides is also less acute than in the common wild hog.

From the form of the cranium, the shape of the canines and incisors, and the other points in which the fossil differs from the existing species of the country, a specific difference may be inferred; for the dissimilarity, although less than that which occurs between the *Babyrussa*, the *Larvatus* and the *Sus scrofa* or common hog, is too remarkable, particularly in the shape of the canines of the lower jaw, to admit of the fossil being considered as a mere variety of the *Sus scrofa*.

Besides the foregoing fossil species, the existence of another is indicated by a cranium, of which fig. 6, Plate B, represents the left half of the palate: the fossil is unfortunately imperfect; the molars of the right maxillary are all broken, and of those on the left side the 6th and 7th are alone perfect. These are smaller than the analogous molars of the former,—smaller even than those of the existing species, and also present other differences besides those of length and breadth: their detrition does not take place in the same manner; for the 8th molar is but little worn, notwithstanding that the 7th is fully developed; in the larger fossil species the 6th would have been much worn down. The 9th molar resembles in its tapering form that of the common hog, but is posteriorly much less complicated, fewer tubercles entering into its body; it is not in the fossil quite perfect, one of the anterior collines being broken off: there is, however, sufficient of the tooth to warrant these remarks. The 6th molar is composed of the same number of collines as that of the common hog, but these, as also the inner side of the tooth, generally are less channelled. The head appears to have been short, for the nasals gain breadth more rapidly as they ascend, and the anterior extremities of the channels from the foramina on the frontals are perpendicularly over the 3rd, instead of being over the anterior of the 6th molar, as in the *Sus scrofa*. The occiput being broken off, the length of the head can only be guessed by paying attention to these minor considerations.

The above specimen is the only one in our collection of this variety; we shall therefore content ourselves with noting its existence amongst the fossil species; and in the event of further discoveries adding to its exemplars, we shall recur to the subject.

| Measurements of Lower Jaws. | Existing species. | Fossil, Fig. 4, Pl. C. | Fossil, Fig. 3, Pl. C. |
|---|-------------------|------------------------|------------------------|
| Length from post. of ramus to anterior extremity of symphysis,..... | 10,62 | 11,65 | .. |
| Ditto of symphysis on mesial line, | 3,25 | 3,27 | 3,00 |
| Space occupied by seven molars,..... | 5,40 | 6,15 | .. |
| Molars measured along their } 1st. 0,30 | 0,30 | 0,35 | 0,35 |
| centres,..... } 2nd. 0,41 | 0,41 | 0,52 | 0,50 |
| | 3rd. 0,48 | 0,57 | 0,62 |
| | 4th. 0,52 | 0,60 | 0,70 |
| | 5th. 0,51 | 0,50 | 0,71 |
| | 6th. 0,76 | 1,05 | 1,23 |
| | 7th. 1,53 | 1,94 | .. |
| Greatest breadth, } 1st. 0,13 | 0,13 | 0,21 | 0,20 |
| | 2nd. 0,18 | 0,27 | 0,27 |
| | 3rd. 0,27 | 0,33 | 0,36 |
| | 4th. 0,36 | 0,45 | 0,51 |
| | 5th. 0,47 | 0,57 | 0,54 |
| | 6th. 0,60 | 0,69 | 0,72 |
| | 7th. 0,66 | 0,76 | .. |

Table of Dimensions.

| Measurements of the Cranium. | Existing species. | Fossil, Fig. 1, Pl. 34. | Fossil not drawn. | Fossil, Fig. 5, Pl. B. | Fossil, Fig. 1, Pl. B. | Fossil, Fig. 2, Pl. B. | Fossil, Fig. 6, Pl. B. |
|---|-------------------|-------------------------|-------------------|------------------------|------------------------|------------------------|------------------------|
| | In. | In. | In. | In. | In. | In. | In. |
| Space occupied by the 7 molars, taken on mesial line, | 4,52 | 5,17 | .. | 5,17 | .. | .. | .. |
| From lower edge of foramen magnum to anterior extremity of intermaxillary, | 12,08 | 13,37 | .. | .. | .. | .. | .. |
| Space between 7th molars at their anterior, | 0,95 | 1,00 | 1,06 | 1,33 | .. | .. | .. |
| Ditto ditto, 1st ditto, | 1,68 | 1,84 | .. | 2,16 | .. | .. | .. |
| Distance from 1st molars to anterior extremity of intermaxillary, taken on mesial line, | 3,88 | 3,52 | .. | .. | .. | .. | .. |
| Ditto from lower edge of occipital foramen to posterior edge of 7th molars ditto, | 3,73 | 4,77 | 4,60 | .. | .. | .. | .. |
| Ditto from summit of occiput to extremity of intermaxillary, | 14,77 | 15,20 | .. | .. | .. | .. | .. |
| Breadth of frontal plane at post orbital apophysis, | 3,96 | 4,30 | 4,80 | 4,80 | .. | .. | .. |
| Ditto of parietal upper plane at narrowest part, | 1,62 | 1,25 | 2,00 | 1,55 | .. | .. | .. |
| Greatest breadth at zygomatic arches, | 5,98 | 6,62 | .. | .. | .. | .. | .. |
| From anterior of orbit to extremity of intermaxillary, | 9,40 | 10,00 | .. | .. | .. | .. | .. |
| From anterior of orbit to point of post. orbital apophysis, | 1,64 | 1,64 | 1,78 | .. | .. | .. | .. |
| Diameter of orbit perpendicularly to palatal plane, | 1,65 | 1,45 | 1,40 | 1,50 | .. | .. | .. |
| From point of post. orbital apophysis to lower edge of jugal, | 2,54 | 2,86 | 2,94 | .. | .. | .. | .. |
| Height of occiput from lower edge of occipital foramen to summit, | 4,85 | 4,62 | 5,54 | .. | .. | .. | .. |
| Breadth across occipital condyles, | 2,20 | 2,32 | 2,24 | .. | .. | .. | .. |
| Length of molars measured } along their centres, } | 1st. | 0,34 | 0,30 | .. | 0,36 | 0,40 | .. |
| | 2nd. | 0,43 | 0,47 | .. | 0,43 | 0,49 | 0,52 |
| | 3rd. | 0,44 | 0,47 | .. | 0,45 | 0,54 | 0,52 |
| | 4th. | 0,38 | 0,45 | .. | 0,56 | 0,54 | 0,49 |
| | 5th. | 0,61 | 0,52 | .. | .. | 0,80 | 0,74 |
| | 6th. | 0,77 | 0,87 | .. | 1,35 | 1,24 | 1,29 |
| | 7th. | 1,45 | 1,97 | 2,03 | 2,04 | .. | 2,03 |
| Breadth of molars measured } across anterior at base, on } broadest parts, | 1st. | 0,21 | 0,27 | .. | 0,18 | .. | .. |
| | 2nd. | 0,26 | 0,31 | .. | 0,34 | 0,31 | .. |
| | 3rd. | 0,33 | 0,33 | .. | 0,44 | 0,43 | 0,31 |
| | 4th. | 0,54 | 0,55 | .. | 0,54 | 0,60 | 0,48 |
| | 5th. | 0,62 | 0,68 | .. | 0,70 | 0,66 | .. |
| | 6th. | 0,76 | 0,85 | .. | 0,80 | 0,84 | 0,61 |
| | 7th. | 0,84 | 1,00 | .. | .. | 0,97 | 0,70 |

Reference to Plates.

Plate XXXIV.—Plan and profile views of fossil cranium, and plan view of a lower jaw.

Pl. XLIV. { B.—Series of half palates to illustrate dentition of upper jaws.
C.—Series of half and entire lower jaws.

VII.—Note on the occurrence of Volcanic Scoria in the Southern Peninsula. By Lieut. NEWBOLD, A. D. C.

I have the honor to present to the notice of the Society, specimens of a calcareous and siliceous *scoria* forming the substance of a small hill at *Búdígúnta*, near *Courtney*, about 11 miles west of *Bellary*. This hill is situated close to the road, at the summit of a small pass over a range of hills running S.E. by which it is embosomed. Its apparent height is about 40 feet—circumference, 420 feet.

The summit is rounded, and surface partially covered with long dry grass; amid which project in every direction masses of *scoria*, passing round the hill in almost regular succession like steps. Towards the top the *scoriæ* appear to be more friable—the base is cavernous, and the masses more vitreous on their surface, and stalactitic in shape. The hill when struck by a heavy stone or the heel of a booted foot emitted a sound as if hollow. Similar sounds were produced in riding a horse over the base. I found two pieces of the *scoria* several hundred yards from the spot: it is, however, probable that these may have been conveyed thence by the traveller. On the summit I picked up a piece of *clink-stone* and one of hornblende rock: the latter appeared to have been excavated by art. Around the base masses of *scoria* intermixed with the schistose sandstone, greenstone, and quartz of the surrounding formation were strewn together, with fragments of trap and iron ore.

The bed of the rivulet that washes the foot of the pass I found to be composed of greenstone. A partial stratum of *kankar* is here met with, covered with alluvial soil.

The surrounding hills are greenstone slate, in which minute scales of mica are found disseminated, capped by a schistose sandstone. The mound of *scoria* has from a distance a singular cineritious appearance, strongly contrasted with the ferruginous tint of the surrounding hills. By many it has been thought of volcanic origin, but I could discover nothing like a crater; nor any traces of lava, obsidian, augite, olivine or other volcanic matter.

The oldest natives can give no account how these *scoriæ* were accumulated, beyond the vague tradition founded on an *episode* in the *Mahabharat*, of their being the burnt bones of a *Racsúsa* of a former age (*Dwápar Yug*); nor am I aware that such *scoriæ* are produced by any furnace used in the country in present times.

BUCHANAN, in his geological account of the range of hills from *Rajmahal* to *Burdwan*, describes a calcareous matter, in mass, called *Asurhar*, or giant's bones.

The similarity in the names given by the natives to these two substances (*Racsása* also signifying a giant) has struck me; although BUCHANAN describes the *Rajmahal* formation as deposited from water; whereas the specimens now sent appear to have undergone the action of fire.

P. S. Since writing the above I have received a letter from the President of the Madras Hindu Literary Society, CAVELLY VENKATA LACHMI'A, who informs me that there are mounds of *scoriæ* of a similar description at *Búdibetta* near *Chittledrúg*, at *Búdihal*, in the *Mysore* country, and at *Búditippa* in *Súndah*, near the *Nugger* frontier. Regarding the origin of these ashes he gave no further account save the local traditions; viz. that some were the ashes of religious sacrifices performed by the holy *Rishís* in their hermitages, and some the funeral piles of remarkable heroes and other noted persons.

Búdigunta, the name of the place whence the specimens sent you were procured, signifies in the Canarese language the "hill of ashes."

VIII.—*Postscript to the account of Ursitaxus printed in the 19th Vol. of Researches As. Soc.* By B. H. HODGSON, Esq.

I have just procured another very perfect skull of the *Ursitax*, which exhibits the same formula of molar dentition as that described in my paper or $\frac{4.4}{4.4}$.

It is the cranium of a mature subject, but less old than the preceding, and I am thus enabled to correct that portion of the generic character which ascribes an almost ursine flatness to the crowns of the molar teeth.

In the present subject the coronal processes of those teeth are distinctly salient, with an obtusely conical form. A similar process rises from the inner heel of the great carnivorous tooth, above; nor is the transverse tubercular, next to it, wholly without symptoms of such a process.

The generic character should be corrected as follows:

'Cheek teeth $\frac{4.4}{4.4}$, strong, broad, low, and furnished on the crowns with obtusely-conical processes: the tubercular of the upper jaw, transverse, narrow, sub-parallelogramic, smaller than the carnivorous tooth, and essentially a grinder: no tubercular in the lower jaw,' et cæt. sicut prius scripta.

It has been suggested to me that our animal is a Glutton or a Ratel. But the dentition of the former, according to the *Regne animal*, is $\frac{5.5}{6.6}$; of the latter is $\frac{4.4}{5.5}$; and I possess several species of both con-

forming to those formulæ. The peculiar dental system of *Ursitaxus* is in harmony with *other* material peculiarities of structure; and the animal therefore seems abundantly entitled to generic distinctness.

As to the *species*, that is probably identical with the *Ursus Indicus* of SHAW, the Indian Badger of PENNANT, and the Biju of Hindusthan, but which still wants (I believe) a scientific name. I suppose, therefore, mine of *Inauritus* will be recognised, unless we are to persist in incumbering the science with the vague names and descriptions of a half informed age.

IX.—*Proceedings of the Asiatic Society.*

Wednesday Evening, the 2nd November, 1836.

The Honorable Sir EDWARD RYAN, President, in the chair.

Mr. G. F. MCCLINTOCH, proposed at the last Meeting, was balloted for, and duly elected a Member.

H. WALTERS, Esq. C. S., Dr. J. M. BRAMLEY, Dr. DRUMMOND, Newab TAHAWUR JUNG Behadûr, and Shâh QABIR U'DI'N were proposed by Mr. JAMES PRINSEP, seconded by Sir EDWARD RYAN.

Dr. JACKSON was proposed by Dr. PEARSON, seconded by Sir EDWARD RYAN.

Read a letter from Mr. VINCENT TREGGAR, acknowledging his election as an associate member.

Read a letter from Mr. C. BROWNLOW, returning thanks for the Society's patronage of the *Alif Leila*, and agreeing to the stipulation for the deposit of a file of the sheets, as printed, with the Secretary.

Read a letter from J. C. C. SUTHERLAND, Esq., Secretary to the General Committee of Public Instruction, requesting to know at what price the Society would supply twenty-eight copies of the *Naishadha* and of the *Raja Turangini*, required for the use of the Government Sanscrit College.

Mr. W. H. MACNAGHTEN moved that the books should be given gratis if intended for deposit in libraries, as the encouragement thus given to the study of these works would promote the sole object the Society had in view in completing their publication. The Secretary explained that they were required as class books; that the present application would doubtless be followed up by a constant periodical demand for this and other works; that when he guaranteed the Society against any risk in undertaking to finish the suspended volumes, he calculated on the necessary school demand for many of them as one of the means of repayment; and the prices fixed were calculated only to cover the gross amount expended in their completion: he proposed furnishing them at a reduced price. Sir BENJ. MALKIN and other Members objected to a reduction of price, and it was resolved by a large majority that the ordinary selling price should be charged.

The Secretary submitted correspondence with the Secretary to the Committee of Public Instruction, relative to the Oriental works deposited for sale at the London Booksellers, which the Society's English Agent from a misconception had authorized to be transferred to the Society's account, and to be sold at reduced prices.

The transfer had been countermanded as soon as known; but the Committee refused to sanction any sales that might mean time have been made at the reduced prices, awaiting the report of the circumstances from their bookseller.

Read a letter from the Secretary of the Royal Academy of Marseilles, acknowledging receipt of the Researches and Journals presented last year.

Shah QABIR U'DIN applied to the Society to be allowed the loan, for the purpose of taking a copy, of a very valuable manuscript of the Koran in the Library, depositing 250 rupees, the price at which it had been purchased by the Society.

Resolved, that he should be permitted to employ *kátibs* in the apartment to take the copy, but that the volume could not be lent out for such a purpose.

He also requested two copies of the last three volumes of the *Alemgiri*, of which the three first volumes had been supplied gratis to the *Susseram Madrassa* by the Education Committee.

Resolved, that this request be complied with.

Library.

A letter was read from the Secretary to Government, General Department, forwarding for deposit in the Library of the Asiatic Society the un-dermentioned 95 volumes, being a set of the Reports and Publications of the Commissioners of Records, of which three copies had been recently sent out (as printed on the reverse of the title page) "for perpetual preservation in some public library of the Bengal Presidency."

Report from Commissioners on Public Records, 1 vol.

Record Commission, Scotland; Correspondence of C. P. COOPER, Esq. Secretary to the Board, with THOMAS THOMSON, Esq. Deputy Clerk Regulation, 1 vol.

Reports from the Commissioners on the Public Records of Ireland, 3 vols.

La Commission Des Archives d'Angleterre, 1 pamphlet.

Public Records, the public advantages of entrusting the Records of the Exchequer, &c. 1 pamphlet.

Nonarum Inquisitiones in Curea Scaccarii, 1 vol.

Rotuli Hundredorum, 2 vols.

Valor Ecclesiasticus, 6 vols.

Inquisitionum Post Mortem Calendarium, 4 vols.

Manuscripts in the Harleian Collection, 4 vols.

Placita de quo Warranto, 1 vol.

Domesday Book, 2 vols.

Domesday Index, 1 vol.

Domesday Supplement, 1 vol.

Sir H. ELLIS's Introduction and Index to Domesday, 2 vols.

Placitorum Abbreviatio, 1 vol.

Ducatus Lancastriæ, 2 vols. Pars prima and secunda, and Pars quarta.

Rotuli Scotiæ, 2 vols.

Rotuli Litterarum Clausarum, 1 vol.

Rotuli Litterarum Patentium, 1 vol.

Rotulorum Originalium, 2 vols.

Manuscripts in the Lansdown Collection, 1 vol.

Inquisitionum in Officio in Hibernia, 2 vols.

Rotulorum Patentium et Clausorum, 1 vol.

The Acts of the Parliaments of Scotland, 10 vols. (first volume wanting.)

Registrum Magui Sigilli, 1 vol.

Proceedings in Chancery, 3 vols.

Calendar to Pleadings, &c. 1 vol. marked Vol. II.

Fœdera, 6 vols.

Parliamentary Writs, 4 vols.

Letters sur la Cour de la Chancellerie d'Angleterre, 1 vol.

Letters to CHARLES PURTON COOPER, Esq. of Lincoln's Inn, Barrister at Law, on the appointment of a Permanent Judge in the Court of Chancery in the place of the Lord Chancellor; 2 pamphlets.

Substance of the Speech of CHARLES PURTON COOPER, Esq. as Counsel for the Rev. CHARLES WELLBELOVED, in the suit of the Attorney-General versus SHORE, instituted in the High Court of Chancery, respecting Lady HEWLEY's Foundations; 1 pamphlet.

Memoria du Commissão dos Arquivos du Gran Bretanha dirigida aos Cartorarios Bibliotecarios e Antiquarios de Portugal, pello que resputa aos trabalhos e Exames da mesma Commissão; 1 pamphlet.

Proceedings and Ordinances of the Privy Council of England, 5 vols.

Rotuli Curiae Regis, 2 vols.

Rotuli de Oblatis et Finibus in Turri Londinensi, 1 vol.

Rotuli Selecti Ex Archivis in Dom. Cap. Westm. 1 vol.

Excerpta è Rotulis Finium in Turri Londinensi asservatis Henrico Tertio, 1 vol. Fines 7. Ric I. 16 Johan, 1 vol.

Rotuli Normanniae in Turri Londinensi, 1 vol.

Statutes of the Realm, 12 vols. including 2 vols. of Index.

Manuscripts in the Cottonian Library, 1 vol.

Calendarium Rotulorum Patentium in Turri Londinensi, 1 vol.

Calendarium Rotulorum Chartarum et Inquisitionum ad quod damnum, 1 vol.

Taxatio Ecclesiastica Angliae et Walliae, 1 vol.

Read a letter from Mr. H. A. HORNEMAN, forwarding for presentation a copy of the first number of the Numismatic Journal, on behalf of Mr. JOHN YONGE AKERMAN, F. S. A. the Editor.

Meteorological Register for September, 1836, was presented by the Surveyor General.

Second Annual Report of the Statistical Society of London, presented by Dr. D. Stewart.

Literary and Antiquities.

Read a letter from H. T. PRINSEP, Esq. Secretary to the Government of India, General Department, forwarding copy of a report furnished to the Government of Bombay from Colonel CHESNEY, of the proceedings of the Euphrates expedition, in its various departments.

[The substance of this report is published below.]

A memoir on the Antiquities of Bamián was submitted by Mr. TREVELYAN, on the part of Mr. C. MASSON.

The same member presented also a notice by MUNSHI' MOHAN LA'L, of *Uch Sherif*, a town near the junction of the five streams in the *Panjab*, celebrated as the place of sepulture of many Mahomedan saints.

Mr. S. G. HEATLY presented through Dr. CORBYN, the first of a series of mathematical essays on the use of functions in geometrical analysis.

Physical.

A large fossil fragment of the acetabulum of an elephant was presented by Dr. SPILSBURY, found by him at *Sigouni*, the place where Captain SLEEMAN discovered the first indications of the *Nerbudda* fossils.

Brigadier ANBUREY, Engineers, presented on the part of Mr. SWETENAM, some incrustated petrifications of leaves from the calcareous springs in the *Dehra Dun*.

A specimen of the red-billed parrot (*Psittacus Sinensis*) was presented by Dr. BURLINI, and a woodpecker by the curator, both mounted in the museum.

The Secretary read the following extract of a private letter from Dr. W. GRIFFITH, dated Sadiya, Assam, 12th Oct.

"I have much pleasure in informing you that I have lately completed the arrangement of the collections of the Musci and Hepaticæ made during our late deputation into Assam. The collection of the former amounts to 154 species, or to about an eighth of the whole known number. It includes twenty-seven genera, of which I have ventured to characterise two as new. That of Hepaticæ includes forty-eight species, of which thirty-one belong to *Jungermannia* alone, and ten genera, of which five appear to be new. Almost the whole of both these collections were made by myself on the *Khasiya Hills* between *Chur-*

ra Punjl and Nunklow, and within a period of seven weeks. Both these orders have hitherto been almost totally neglected by Indian Botanists; and the greater part of the few that have been described seem to have been sent from *Nipál* by the Honorable Mr. GARDINER. Hence, owing to the impossibility of obtaining advice, and as my situation obviously precludes me at present from consulting the requisite authorities, I have determined on sending the MSS. and drawings to England, accompanied with a complete series of both collections. By the adoption of this plan the stability of my very numerous new species will easily be determined*."

X.—*A General Statement of the labors and proceedings of the Expedition to the Euphrates, under the command of Colonel CHESNEY, Royal Artillery, F. R. S.*

The object of the present communication is not to anticipate the interest which must be felt, and especially by the members of the Geographical Society, as well as other public bodies, not only in the progress of the Expedition to the Euphrates, but also in the results obtained to science and general knowledge; for, to render these of any real value, they must be accompanied by the details of the means by which they were acquired. It is rather, therefore, with a view to the exhibition of how those means have been hitherto applied, and how the capabilities of the Expedition have been directed, that the present statement is made; not, however, omitting those details which a brief notice of this kind will admit, when touching upon the labour, the progress, and the present condition of the enterprise itself.

The voyage to *Malta* from *Liverpool* occupied a period of twenty-nine days, a great part of which time was taken up in working out the details, and consolidating the original plans of our commander. Among the scientific labours, independently of questions of general navigation and drilling the men, were the rating of the chronometers, observations in meteorology, the temperature of the sea, and researches in natural history.

At *Malta*, some time was devoted to the determination of the intensity of magnetic forces, and the amount of the dip of the needle. The cylinders used for the former experiments consisted of two pair that had been tried by Captain SABINE in *Limerick*, and another obtained through the kindness of Professor LLOYD, T. C. D. and tried at *Dublin* previous to departure. The whole set being subsequently experimented upon in *London* by Lieut. MURPHY, R. E. and also at *Liverpool*.

An exploratory tour was also made in the interior of the islands, *Malta* and *Gaza*, with the view of recognizing in a general way their geological structure and natural productions. Some fossil shells of interest were obtained, also the plants of the season (March), and some species belonging to the classes *Tunicata*, *Acaleppa*, *Malacodermæ* and *Polypi*.

During the stay at *Malta*, Colonel CHESNEY was much occupied with the general objects of the Expedition, more particularly about the construction of flat boats. The *George Canning* had been separated from the *Alban* Steamer her consort, by rude weather, off *Cork*, and it was found impossible to remedy this loss at the Mediterranean station; but the Admiral, Sir JOSIAS ROWLEY, allowed the *Columbine* sloop to accompany the Expedition to the mouth of the *Orontes*; and there was certainly every reason to rejoice in this arrangement; for not only was the *George Canning* taken in tow by the brig at all times when the weather permitted, but Commander HENDERSON and his officers secured the gratitude of every member of the Expedition, by the most efficient and zealous services in landing the stores.

The difficulties and opposition to the landing of the stores are already known from the various reports that have reached England. Success was only obtained here in the first instance by the bold step of an immediate landing without a reference to the authorities of the country, and by exposing and remonstrating

* We hope soon to receive from the Tea Committee some account of Dr. GRIFFITH's previous labors. We hear that the several reports of Dr. WALLICH, Dr. GRIFFITH, and Dr. McCLELLAND have been some time sent in.—ED.

in the second, against the system of subterfuge carried on by the Syrian Government towards the expedition; and its commander visited IBRAHIM PACHA at Tripoli, in the hope of persuading him to give, at least for a time, that assistance which had been promised unreservedly by the Viceroy himself.

The connexion between the *George Canning* and the shore having been established by means of an hawser extending from the ship across the bar of the *Orontes*, a distance of 1200 yards, parties were sent on shore from the *Columbine* and *George Canning* with tents for their accommodation, and the disembarkation was carried on with such spirit and activity, that the site designated as "Amelia Dépôt" soon became a little camp with a very mixed aspect, replete with bustle and useful occupation. The bar at the mouth of the river was at times dangerous, and on one occasion Commander HENDERSON with his boat's crew narrowly escaped a watery grave.

The observatory being now fixed, Lieutenant MURPHY applied himself to astronomical observations, more especially with the fine transit instrument that had come out with the Expedition. The survey was soon afterwards began under Lieutenant MURPHY, Mr. THOMSON, and Mr. STENHOUSE, (who was sent by the Admiral) at *Lattaquia* (Laodicea), but was limited to a determination of the outline of the coast with its soundings, and an examination of the coast itself. Mr. AINSWORTH also accompanied the party for purposes of natural history. The sites of *Heracleum* and *Possidium* were recognized. On their return an excursion was made to the summit of PLINY's wonder, *Mount Cassius* or *Gebel*. The succession of the various forms of vegetation was noted. The party bivouacked near the summit, on which, April 28th, there still remained some patches of snow. The results given by the Barometer, which was observed at various heights, compared with a register kept at the same time by Mr. EDEN in the Dépôt, coincided closely with those obtained trigonometrically by Mr. MURPHY, and which gave for the elevation above the sea 5318 feet. But this mountain, notwithstanding its great height, is entirely composed of supracretaceous limestones, characterized by cones and cerithii. At its north-eastern foot is an extensive deposit of highly crystalline gypsum, and to the south-east diallage rocks and serpentines break through the same formations, accompanied by lacustrine marles and siliceous limestones.

On the 29th of April, a party consisting of Lieutenant MURPHY, Mr. AINSWORTH, and Mr. THOMSON, left the *Orontes* in a country boat to commence the survey of the Gulph of *Scanderoon* and its neighbouring shores. The first points visited were *Arsons* and *Rhosas*. An ascent was then made to *Gebel Kaiseria*, on which they bivouacked. Next came *Scanderoon*, and in its neighbourhood Jacob's Well, the site of *Myriandros*; to the south, the pass of *Bylan*, gates of *Syria* (PTOLEMY), *Ammanian Gates* (STRABO), a defile in the mountains separating the *Amanus* from the *Rhosas*, and leading from *Myriandros* into the plain of *Antioch* or *Umk*.

To the north the remains of a marble gate way, commonly called Jonas' Pillars, (*Cilicia Gates* of PTOLEMY, Q. CURTIUS and ARRIAN:) this was the midnight halt of ALEXANDER. The description of ZENOPHON refers to a narrow place contiguous to the sea; that of ARRIAN to the ascent of the hills that shut up the same plain contiguous to the sea. The latter applies itself distinctly to these ruins. Half a mile north of the Cilician Gates, is the river *Markotsaye* (*Kersus*), and beyond a wall terminating in the sea with a tower. At the foot of the mountains, the *Kersus* passes between two walls near the village of *Merkets*. This is the wall and gates of ZENOPHON. They are built of stone. Farther north is *Byas* (*Vaia*s Anton. Itiner. *Myrcandros* of WILLIAMS' Geography of ancient Asia) and there are several populous villages between *Byas* and the *Issus* (*Pinarus*). At a subsequent period, in company with Colonel CHESNEY, this river was examined in detail, as also the ruins of a considerable town near some hills which enclosed the Issic plain to the north-west—the *Giaour Dayh*, or *Amanus*, being the east pass of DARIUS, Armenian Gates of ARRIAN; the whole corresponding closely with the last mentioned author's description. Where the gulph runs to the west, there are ruins of forts, castles and gateways. From thence proceeding north-west by *Kurd Kulac* (Wolf's ears) (*Jordequica* of D'ANVILLE and RENNELL) to *Missis* (*Mesis*) at a pass through

low hills of sandstone, are the remains of a road and archway constructed in part of sandstone, but chiefly of polygonal masses of basalt and laval, which no doubt have given rise to its name, *Demir Kapon*, Iron Gate, and *Kara Kapon*, Black Gate,—the Armenian Gates of *PTOLEMY*; *Amanicee Pylæ* of Colonel LEAKE; Upper Armenian Gates, *RENNELL*; *Timour Kapon*, or the Gate of *Tamerlane*, (*Mecca* itinerary by Geographical Society of Paris.) From hence the party visited *Ayas* (*Age*) the mouths of the *Jihoun* (Pyramus), where an interesting examination took place of the progress of alluvial deposits. The most westerly point reached was *Karadash*, the site of *Mallus* and *Megarsus*. The whole of the party being sick, the pass of *Bylan* was the only position examined on the return to *Antioch*.

In the neighbourhood of *Amelia Depôt*, the points of most interest were the course of the *Orontes*, examined by Lieutenant CLEAVELAND, Messrs. EDEN, CHARLEWOOD, and FITZJAMES; and the ruins of *Selucia Pieria* also made the object of interesting researches. About the same time, various other undertakings were in progress. The gentlemen already named, in conjunction with Messrs. HECTOR and BELL, were in turns employed on different points, repairing and widening the road from the mouth of the *Orontes* to *Antioch*; a work of considerable labour, especially in making the fords over the rivers practicable for waggons. Captain ESTCOURT and Dr. STAUNTON had gone on a journey of remonstrance to the Civil Governor of *Syria* at *Damascus*,—visiting as they returned *Bualliec* and the cedars of *Lebanon*. Lieutenant LYNCH was employed in improving the line of route from *Antioch* by *Djezer haded* to *Bir*; and, lastly,

Lieutenant COCKBURN was employed (after Captain ESTCOURT's visit to *Reschid Pacha* at *Diarbek*) in throwing up some slight field works, and constructing slips at a spot selected for this purpose, $1\frac{1}{2}$ miles below *Bir* on the right bank, and now called Port William.

To avoid the mischievous effects of idleness, as well as to carry the heavy weights to *Antioch* by water (when denied all other local means by Government), the *Tigris* was put together on the *Orontes* during the month of May as a working shell, in which state she was steaming experimentally, when the *PACHA* withdrew his outward opposition on the 3d of June. Towards the middle of that month commenced the dispatch of the light stores on camels and mules, and towards its close some trains of waggons* passed through *Antioch* carrying heavy weights, but this being found a dilatory operation, the water communication was looked to once more, along a new line which promised many advantages. The *Orontes*, the *Lake of Antioch*, and the *Kara-soo*, were, therefore, examined; and upon the reports and maps thus obtained, the Commander ordered a *Depôt* (the 2d) to be formed at *Goozel Burge*, "pretty tower," a village on the *Orontes* 3 miles above *Antioch*, when the infinite variety of *materiel*, including the more ponderous objects, such as boilers, the eight sections (into which the *Tigris* had been divided,) diving bells, &c. were to be put on rafts, flat boats, and pontoons, in order to be transported by the *Orontes* into *Kara-soo*, (black water,) and along this navigable stream into the *Lake Owja Dengis* (white sea,) keeping along its western side on account of the deeper water, and ultimately ascending the *Ultra Kara-soo* to a spot called *Moorad Pacha*, near the Village of *Gule Bachee*, "head of the waters," a little beyond the junction of the *Aswad* and *Yagra* rivers, the whole distance being fourteen hours from *Goozel Burge*. The abundant spring called *Gule Pachee* issues out of a pseudo-volcanic mound rising out of the plain. The Bridge of *Moorad Pacha* is chiefly a causeway resting on the soil, but in parts supported by arches, and crossing that part of the plain of *Umk* which is most liable to be inundated, for a distance of about three miles. This plain is inhabited by pastoral and Nomade Turcomans living in tents, who are a quiet people. The ancients appear to have known in this tract the rivers *Oinaparas*, *Arcenthus*, *Labotas*, *Ufrenus*, and the ditch of *Meleagrus*. The actual fluents of the *Lake* are the *Aswad*, or *Asond*, the *Yagra* (uniting to form the *Kara-soo*) the *Aphreen* traversing the *Cyrrhesteca*, the rivulet of *Hareem* and the *Orontes*, but the first mentioned have various tributaries to the north, with different appellations. On the road

* Twenty-seven vehicles of different kinds were constructed at *Amelia Depôt*, and there were thirty-three, including the artillery waggons, from England.

to the valley of the *Aphreen* are some Thermal springs, El Hammam, "the Baths," issuing at the point of junction of plutonic rocks with tertiary dolomites. The waters of these springs are said to have originated with different earthquakes, and present corresponding differences of temperature.

It is a distance of about 111 miles across the so called "Syrian Desert" from Moorad Pacha to Port William. The first part of it is hilly but not infertile, between El Hamnam and *Azass*, or Arsace Menniza of Ant. Itinerary (MSS. of Colonel CHESNEY). The second part from *Azass* to Port William is for the most part level, at the best undulating, containing the valleys of the *Kowick* (Chalus) and the *Sajour*. These plains are every where fertile, for the most part cultivated, and abounding in populous villages, consisting of Fellah Arabs, Kurds, Turkish tribes, and mixed races, possessing bullocks in great abundance along the whole of the direct line which passed a little way southward of *Aintab*, the ancient Antiochea ad Taurum, and now a garrisoned town of large size and some commercial importance.

The general arrangements for the transport were, that Lieutenant CLEVELAND and Mr. CHARLEWOOD were to carry the boilers, &c. to *Goozel Burge*, from whence they were to proceed under Mr. FITZJAMES to *Moorad Pacha* by water, to be conveyed from thence to Port William by Captain ESTCOURT, assisted by Mr. EDEN; and as there was a line of waggons connecting the boats with the sea on one side, and to the Euphrates on the other, the three portions of the grand line were simultaneously in operation, and also a fourth, viz. camels and mules, carrying the light stores direct from Amelia Dépôt to *Port William* by the *Antioch* route through *DjezerHadid**. At first every thing went on well, and promised a rapid conclusion. Lieutenant CLEVELAND obtained bullocks with a moderate degree of difficulty, and his ingenuity and perseverance† did the rest by removing every thing to *Goozel Burge*, where they were successively embarked for *Moorad Pacha*; but here things were immediately at a stand still, and although the strongest orders (in appearance) were constantly issued by IBRAHIM PACHA, very few bullocks could be obtained even at the highest prices by Captain ESTCOURT, whose unwearied efforts could only secure the tantalizing but ingenious result of an abundance of bullocks along the whole line, *except the first and last stages*; consequently the boilers which had remained for ten or twelve weeks on their carriages, might have continued at *Moorad Pacha* until now, if we had not exerted ourselves to bring them on, one at a time, with our own horses, instead of bringing on a number of the heavy weights at the same time with the bullocks; and the result was, that the officers and men had to toil along the great line of route from *Moorad Pacha*, exposed for months to the great heats of noon, the chills of night, and to the baneful effects of what HUMBOLDT expressively calls an extreme climate, the thermometer being as high as 110° in the shade, (July) and as low as 8° in the winter, during which some of the boilers were flooded, and the diving-bell actually lost in an extensive sheet of water near El Hammam. This had been in all likelihood the original object of the Pacha, and the *Euphrates* being already complete, bullocks were given to perform the impossible (as was thought), task, of bringing on the *Tigris*' boilers‡, which were warped out of the lake by manual labor, and ultimately taken to Port William by Lieutenant CLEVELAND, Messrs. EDEN, CHARLEWOOD and HECTOR, the only officers in the Expedition then effective. Not one individual officer or man employed on this enterprize escaped at least one serious illness, nor is it at all surprising that some§ fell victims to trials so long continued, and to a climate so often replete with morbid miasma as *Moorad Pacha*, the worst of the stitious: yet the malaria only proved fatal when other causes combined to render it so; nor need the splendid scenery, nor the magnificent

* Eight hundred and forty-one camels and 160 mules were employed in all, and the greater part of these caravans were stopped on the frontier by the Pacha, in order to cause delay by forcing us to bring others from the Sultan's territory.

† In addition to pulleys, &c. the boilers were actually moved up the hills inch by inch with jack screws by Mr. CHARLEWOOD and Lieutenant CLEVELAND.

‡ Mr. HECTOR found the diving bell by means of long poles, and then rolled it under water for the most part half a mile to its carriages.

§ Seven men of the Expedition and one workman.

climate of *Syria*, be approached with fear, for its malaria is not a pestilence, and the circumstances under which the Expedition was placed, toiling on lakes and rivers, dwelling in the marsh, with almost reckless exposure to the sun of the day, followed by the dew of the night, require a separate consideration; and perhaps the surprise will then be, that a greater fatality did not occur amongst a body of men (about 85), in general unseasoned, during the laborious and almost unexampled transport of two large iron vessels, which, thanks to the care of all, have since been set up*, and are now steaming with their boilers, engines, &c. quite as safe and even more perfect in their working details than when sent out of the maker's hands at *Liverpool*, notwithstanding a long journey, with all the difficulties which could be thrown in the way by the Local Government underhand.

Previous to taking medical charge at the station at *Moorad Pacha*, Mr. AINSWORTH had made an examination of the less frequented countries immediately south of *Antioch*. He crossed the mountains at *Beit El Moie* (the Daphne of *Pococke*,) and entered forests which covered a great basin of tertiary rocks chiefly *cerithia* limestone, silicious limestone and lacustrine marles, with gypsum every where broken up and dislocated by serpentines and diallage rocks. It is only in the valley of *Antioch*, that the *Pliocene* formations shewed themselves, and enabled Mr. A. to determine the period of the elevation of the plutonic rocks of the silico-magnesian series. From *Lattaquia*, he followed MAUNDRELL's route by the country of the *Maronites* and *Gebel Kraad*, the northern prolongation of the *Ansarian* mountains, and by the valley of *Bedame*, rich in scammony (*convolvulus scammonia*) to that of the *Orontes*, which he joined at *Djezer Shogher*, the *Larissa* of GOSSELIN, and *Seleucus Belus* of D'ANVILLE. A Roman road led to *Koalat el Medyk*, where are ruins of a highly ornamental character. Part of the town is enclosed in an ancient castle situate on a bill; the other ruins lie in a plain part of a strong wall, and an archway still exist, and also the remains of a temple. In the adjoining lake are the celebrated black fish, the sources of a distant commerce, which were recognized to be the *Macropteronotus magur* of naturalists. From *Medyk* he visited the little centre of primitive Christianity in the mountains of *Reiha* and *Edlip*, abounding in monuments of a then new hierarchy, returning subsequently by the borders of the great plain to *Antioch*.

At this period, August 1835, Lieutenant MURPHY commenced the grand line of levels which was to be carried from the Mediterranean to the Euphrates, with reference to canals, and many other objects of deep interest connected with science and calculated to encourage this extensive work.

Many obstacles occurred at first; prolonged malaria had unfitted all for exposure to the sun. Lieutenant COCKBURN and Mr. THOMSON after a short exertion were both laid up. Lieutenant MURPHY was also seriously ill. Ultimately after another beginning, the last mentioned industrious officer left for *Port William*, where he was required in the observatory, and levelling was continued by Mr. THOMSON, who has just completed this important part of the original plan.

Nearly at the same time a party composed of Lieutenant LYNCH, his brother, Mr. STAUNTON, and Mr. ELLIOT, set out on a mission of a friendly and conciliatory nature to the Arabs. They visited the tribes of *Welda*, *Aniza*, *Geeza*, the *Bore-sipahi* and some of the *Turcomans*, from all of whom they met a favorable reception. The *Aniza* alone shewed a doubtful disposition, and the *Bore-sipahi*, one of their tributaries, wounded one of the servants severely. This hostility did not, however, appear to be directed against the Expedition so much as with the view of plundering those gentlemen who had ventured amongst them, and the *Sheikb* immediately offered to compromise the matter by presents, which were declined as a matter of policy, in the hope that an unsettled affair of blood may tend to keep the *Aniza* in better order as regards their future intercourse with the Expedition.

In the early part of January last, Colonel CHESNEY left his bed, and was actually put on his horse to prosecute a scientific journey to the *Taurus*, and part of

* The labor fell chiefly upon Captain ESTCOURT of the 43d Light Infantry, Lieut. CLEVELAND, Messrs. EDEN, CHARLEWOOD and FITZJAMES, R. N.

Asia Minor. He was accompanied by Lieutenant MURPHY and Mr. AINSWORTH, both invalids; also Mr. STAUNTON. The party proceeded by *Antab* to *Killis*, and thence to the Eastern acclivities of the *Amanus*, in the parallel of the *Issus*, but no passage could be effected at that season of the year. Repelled to the south, the mountains were passed by *Pagrae*, through the *Beilan* pass, to *Scanderoon*, from whence the party proceeded by the Cilician Gates and *Byas* to the plain of the *Issus*. Sufficient time having been devoted to the examination of the various questions of historical geography, connected with this most interesting district, the great road towards *Constantinople* was followed by *Demer Kapon* to *Kurd Kulac*, "the Wolf's ear," (*Jardiquiea*) and by the plain of *Tachokour Ova*, "the valley of the ditch." Crossing the *Gebel Elnoar*, the mountain of the light, bearing on its rocky summit to the north, *Shah Merar*, "the Castle of the Serpent," and along the left bank of the *Jihoun*, *Djehan soo*, "the river of the world," to *Missis*, the ancient Mopsuestia, now almost in ruins, but once (like Tarsus) one of the chief cities of *Cilicia*. From *Missis* the party continued, cross the plain by *Adana* (head-quarters of the Pachalic) to the last mentioned town, where they found the French Consul, Mons. GILER, engaged in excavating a monument close to the place, of great solidity, and apparently very remote antiquity. It consists of an enclosure in the form of a parallelogram, with two transverse masses of similar form at one extremity; the walls and masses were of the most solid construction, without the least appearance of any thing like a sepulchral chamber in any part of this extensive mass,—at least as low down as the level of the ground around it.

The road followed on leaving *Tarsus* led over the sub-alpine country at the foot of the *Tarsus*, consisting of tertiary rocks in great variety. Near the centre of the Tauric chain the lead mines of *Kulé Boghaz* were visited: they occur in limestone belonging to the cretaceous series, and are in the valley south of the grand pass of the same name, but worked most injudiciously. The pass itself was then examined almost to the summit level, and the party regained the more level country on the south side of the great mountains, in order to visit the town of *Sis*, and the border territories of the Sultan and Pacha. Here the inhabitants had so bad a name, that no muleteer or guide could be induced to proceed along the mountains in that direction, and whilst overcoming the difficulties made by the alarms of the people, Colonel CHESNEY and Mr. AINSWORTH were separated from the rest of the party, and made their way to *Sis* on foot by one line, whilst Lieutenant MURPHY and Mr. STAUNTON reached it by another; each traversing a romantic and beautiful country formed by the wooded abutments of the Taurus, and well peopled by the best disposed peasants imaginable, instead of being all robbers, as they were represented. During about 125 miles of country, composed almost entirely of tertiary sandstone, (ostracite sandstone of KUPFFER,) they crossed the *Seihoun*, the *Jeihoun*, the *Corrykoon*, and several smaller, yet good sized rivers watering this interesting country, which terminate at *Sis*, the residence of an Armenian Patriarch, the third in importance at the present day, with a respectable palace, and a large convent in his charge; whilst at *Sis* an incursion was made into the Taurus and the mountain of *Kara Sis*, *Black Sis* ascended, after crossing a part of the crystalline plutonic formations. The researches were then directed towards *Anasaiba* on the plain. The ruins of the city are still extant, backed by an insulated mountain, bearing a castle of various architecture. Such solitary hills rising out of the plains are not unfrequent here, and they mostly bear castellated buildings on their summits, as *Sis Shah Meran*, *Toome*, *Anasaiba*, and others. From *Anasaiba* the party crossed the plain of the village and district of *Kars*, and there entered the mountainous country which led by *Analat* to *Marash*. The chain was not crossed without much difficulty; the narrow pathway was carried alongside, and down precipices that were very steep; so much so, that it became necessary at times to unload the horses, and carry the baggage over the most dangerous places. The culminating point of this part of the Taurus is called *Durdoon Dagh*. The chain is composed of mica slates, clay slates, with graphite or plumbago, quartz, schists, quartzites, and diorites, with uplifted limestones belonging to the supra-cretaceous series. The great and massive mountain which rises above *Marash*, and is there known by the name of

Arga Dagħ consists of tertiary sandstone and limestone tilted up by and reposing on serpentine and diallele rocks, which would indicate different geographical connections. The direction of the *Arga Dagħ* is nearly from SW. to NE.; that of the shistose chain of *Durdoon Dagħ*, a little south of east; that of the *Giaur Dagħ* (Amaus) is the same as *Arga Dagħ*. Colonel CHESNEY returned to *Port William* from *Marash*, leaving directions for the remainder of the party to proceed in the direction of *Samsat*, *Orfa*, &c.; but being thrown back on *Romkala* by the swollen rivers, they returned to *Port William*, surveying the river between those places. During the whole period of their progress the positions of the principal places, ancient and modern, were determined astronomically by Lieutenant MURPHY, and careful itineraries kept, in addition to bearings taken, when practicable, with the theodolite or Kater's compass, according to circumstances. The results of these labours has been, in the first place, to connect the survey of the coast of *Lattaquia* and that of the *Issus* with that of Captain BEAUFORT; and, in the second, to join those surveys to the Euphrates. There are ample materials for laying down a map with such a degree of accuracy as will, it is hoped, enable the learned to determine many points of ancient history and geography, especially those depending upon the length of the stadium, the parasang, and other scales of measurement used by STRABO, PLINY, and HERODOTUS.

On the day following the return of the first party, another was sent out by the commanding officer to finish that part of the plan which had been interrupted. This one consisted of Lieutenant LYNCH, Mr. EDEN, R. N. and Mr. AINSWORTH. Agreeably to the instructions received, the party took up the former work at *Romkala*, proceeding from thence along the left bank, carefully surveying the river as far as *Samsat*, the birth-place of LUCIAN. The ruins of this celebrated place are just recognizable. The modern town small and poor, but the valley itself fertile, as it is described to have been in former times; and ferry-boats are still kept up to pass the river to and from *Orfa*. The course of the Euphrates from this ancient *Zengma*, to that above *Bir*, differs from what has been represented on most maps: it flows, in fact, in the general direction of south-west, and is not turned, as an incorrect reading of STRABO would infer, (RENNELL and D'ANVILLE) to the south-east.

Samosat having been fixed, it was then connected astronomically as well as by an itinerary, with *Orfa*, (*Calli-rhoe*, *Roha* *Orfah*, in its progress of corruption, *Edessa*, and *Antiochea* under successive masters.) To the north of the city are evidences in conic lines, and circles of elevations of pseudo volcanic action. The fish venerated so much in ancient times, are still preserved in the marble basins of the mosque of *Abrania*, and were recognized to be a kind of Barbel. From *Orfa*, the great Mesopotamian plain was crossed in the direction of *Harran*, "*Carrhas clade crassi nobiles*," and still more interesting as the residence of ABRAHAM. *Harran* was also connected with its rival in antiquity, *Serug*, of which scarcely a vestige remains. In the plain around the ruined site of the latter place, the party met two colossal lions, sculptured in basalt with refined taste (*Basanite* basalt, with disseminated augite); these may possibly be the remains of that vanity which prompted ANTONIUS CARACALLA to assert that a lion had fought by his side in his Parthian wars.

Doctor HELFER having been separated from the rest of the party when proceeding towards the Taurus, a journey made by him to the Salt Lake south-east of *Aleppo*, led to the discovery of an ancient city near a basaltic range, four hours S. E. of the Lake. There are some remains of a temple and several Greek inscriptions which have been furnished, with a detailed description of this hitherto unknown place, by Mr. HELFER.

Early in February an opportune reinforcement arrived, consisting of four sappers from England, and six seamen from the *Columbine*, which restored the Expedition to its original strength; and the pendulum, dipping needle, and other experiments being completed, the Expedition was put in motion on the 16th March. The *Euphrates* taking the lead to survey, and give the benefit of the rough charts, and a pilot to the *Tigris*, in order that she might follow at one or at most two moves, and thus spare fuel as much as possible.

Previous to the actual descent, the *Euphrates* passed up rather a bad rapid, and stemmed the strong current as far as the town of *Bir* in the most satisfactory manner, displaying the Sultan's standard, and saluting him with 21 guns, which were returned from the castle and by the acclamations of the astonished Moslems, who crowded both banks to be *really* certain that iron could be made to float, and to surmount the force of a current, now *overcome for the first time*, and God was blessed for such a creation, and sending men amongst them, ten of whom could take their town, was added.

Since the departure, 101 miles of the river have been carefully surveyed in the following manner. A boat was dispatched ahead usually for a distance of twenty or twenty-five miles, sounding, and taking bearings, which being placed on paper when the officer returned, he became pilot to the vessel for the distance examined; and a second set of bearings, with a double set of soundings, were taken from the vessel's deck. Simultaneously with the water operations thus carried on by Lieutenant CLEAVELAND, Messrs. EDEN, CHARLEWOOD, FRIZJAMES, and HECTOR, there were two other sets on land; viz. a chain of grand trigonometrical angles along the principal heights, based on astronomical points, by Lieutenant MURPHY, R. E.; and a smaller one, with a succession of short base lines from bend to bend, by Captain ESTCOURT, who is now laying down a map with his details of the ground, &c., and also embracing the labors of all his coadjutors: so that it is hoped, that the map of the important part of this great river will be sent home almost immediately*. A similar method of surveying is to be organized immediately on board the *Tigris*, so as to carry the work on to *Bussora* in the same manner, each vessel taking a separate section of the labor.

Our land parties, as well as the water, naturally involved much intercourse with Arabs, who have shewn themselves well disposed, except in one instance, when it became necessary to fire a 9-pounder blank to save a Sheik, their enemy, who was attacked whilst in our boat.

The state of the river is very favorable, although we run aground, owing to the deception caused for the moment by a bright meridian sun: but the deep part of the river was 420 yards wide at the spot in question, where we remained some days digging the vessel out, nor did she suffer in the slightest degree†.

XI.—*The Governor General's Conversazione.*

On Tuesday, the 9th of November, was held the first of a series of entertainments, which we hail as the harbingers of a new era for Science and Research in India. Acting on the example of the DUKE OF SUSSEX, President of the Royal Society, Lord AUCKLAND, as Patron of the Asiatic Society, has expressed a desire to assemble around him at these periodical parties, in a social way, not only the members of the Society, but all residents and visitors at the metropolis, who are known to cultivate the fine arts, the sciences, or literature, and to collect on his tables for their inspection and amusement, in the language of our motto, 'whatever is performed by man or produced by nature.' Thus without interfering with the formal proceedings and records of the several scientific bodies, those who contribute thereto will have the satisfaction of knowing that their donations or their inventions will be likewise viewed by the head of the Government, and by a much more numerous assemblage than could ever be enticed to an ordinary meeting. Distant merit will feel that it is sure of appreciation, and ambition secure of notoriety. Schemes for scientific exploration—plans of national improvement—useful mechanical invention—promising talent in the fine arts,—will be brought forward, canvassed and encouraged, where encouragement is due,

* Also the specimens already collected in the different scientific departments of geology, natural history, &c.

† The above report was addressed to the Bombay Government, previous, of course, to the disastrous hurricane which wrecked the *Tigris*, and destroyed so many lives.—ED.

and the stimulus which has been wanting since the days of MINTO and MOIRA, will again be restored.

We have hardly room to describe the conduct of the first meeting, nor do we think any formal report of a *soirée*, intended to be private, and sans formalité, would be becoming. It is more to satisfy our distant readers as to the nature of the parties, which they can so materially benefit, to speak paradoxically, *by their absence*, that we venture to insert the brief notice, which appeared in the daily papers.

"The south-west or drawing-room wing of the Government House was tastefully laid out with all the novelties in the arts, in antiquities and in natural history, that could readily be brought together. On the pier tables of the corridor leading to the rooms, were disposed very numerous specimens of the plants now in flower at the Botanical Garden, each ticketed with its classical name.

"On entering the ante-room, a very splendid collection of insects was seen displayed on the tables and against the walls, in convenient cabinets: the newest addition to these, (which comprised a portion of Dr. PEARSON'S and of the Asiatic Society's cabinets) was the donation of Mr. GEORGE LOCH of the Civil Service, to the Asiatic Society, at a recent meeting. A fine collection of shells just received from His Excellency the Governor of Ceylon, was distributed on the side tables of the principal saloon. In an adjoining apartment were selected fragments of the rich and highly curious Buddhist sculpture, discovered by Captain CUNNINGHAM, in the neighbourhood of the SA'RNA'TH tumulus near Benares, and presented by him to the Asiatic Society. On another table the last fossil discovery by Dr. SPILSBURY, the socket of the thigh-bone of an elephant from the rock at *Segouri*, whence Capt. SLEEMAN first brought to light the fossils of the Nerbudda valley. By its side were placed the femur of a modern and of a fossil elephant (the latter of an animal 15 feet in height) to shew that the present socket must, from its curvature, have belonged to a still more monstrous animal!

"On the round tables of the drawing room were spread out numerous beautiful drawings—of Mr. Hodgson's Nipal Zoology; of Dr. CANTOR'S collection of Indian Snakes; of Dr. McCLELLAND'S Assamese Zoology; and all the designs sent in to the Committee of the Metcalfe Library. In other convenient spots were displayed a wax magnified model of the human ear: stuffed objects of natural history, and models of Malay praws, presented by Capt. CHADS, &c.

"After the company had severally made the round of these objects, their attention was drawn to the table which Professor O'SHAUGHNESSY had prepared for the exhibition of his very ingenious model of the application of the late galvano-magnetic discoveries to the practical attainment of a working power.

"It would be impossible here to describe fully the construction of this curious wheel:—a number of horse-shoe magnets of soft iron, with wire coiled round them, were arranged on its spokes, so as to present their poles successively in rotation before the opposite poles of a more powerful magnet (also artificial) fixed on a stand at the side; the wires of the several wheel magnets were conducted in a manner not readily seen, so as to terminate in mercurial cups, into which were dipped the two wires of a small galvanic battery; on charging the latter, rotation ensued, and by a contrivance, as each revolving magnet arrived by the force of attraction, at the fixed magnet, its poles were instantaneously reversed so as to cause repulsion, while the next magnet above was attracted. We hope to see a full account of the Professor's successful adaptation when his apparatus is matured. The model worked steadily with 10 oz. power.

"The converse of the problem, or the development of a galvanic force from the ordinary magnet, was then exhibited on an adjoining table by a beautiful apparatus belonging to Mr. JAMES PRINSEP. Water was decomposed by the magnet; a candle was lighted by it; and an electric shock was administered to many of the spectators, among whom the native gentlemen in particular betrayed considerable astonishment at its effects.

"At the close of the evening refreshments were partaken of in the marble hall, and the guests retired at half-past eleven, apparently much pleased with the novel entertainment prepared for them by their illustrious host."

Meteorological Register, kept at the Assay Office, Calcutta, for the Month of October, 1836.

| Day of the Month. | Observations at 10 A. M. | | | | | | | Calculated Humidity. | | | Observations at 4 P. M. | | | | | | | Calculated Humidity. | | | Register Thermometer Extremes. | | Wind. | Weather. |
|-------------------|--------------------------|------------------------|------------|-------------------|-------------------|-------------------------|-------------|----------------------|------------------|-------------------------|-------------------------|---------------------|---------------------|---------------|--------------|-------|----------|----------------------|----------|----------|--------------------------------|-------------|---------------------------|------------|
| | New Stand. | Barometer red. to 32°. | Old Stand. | Barometer at 32°. | Thermome. in air. | Depression of wet-bulb. | Doby Hygro. | Dew point. | Hair Hygrometer. | Centesimal thermometer. | Evapour by wet-bulb. | Ditto by dew-point. | Do. by hair hygrom. | Cold on roof. | Heat in sun. | Rain. | 10 A. M. | 4 P. M. | Morning. | Evening. | | | | |
| 1 | 29.680 | 29.715 | 82.9 | 5.3 | 5.6 | 75.0 | 85 | 77 | 64 | 29.640 | 37.5 | 9.9 | 10.0 | 71.2 | 79 | 61 | 60 | 57 | 73.1 | 112.2 | S. W. S.W. | fine. | fine. | |
| 2 | 746 | 784 | 83.3 | 8.5 | 9.1 | 67.0 | 78 | 64 | 55 | 71.2 | 85.6 | 12.1 | 10.5 | 67.0 | 75 | 52 | 55 | 51 | 72.2 | 109.5 | N. E. N. | clear. | clear. | |
| 3 | 737 | 782 | 83.7 | 8.8 | 8.3 | 67.6 | 80 | 62 | 55 | 70.6 | 83.9 | 16.7 | 16.6 | 62.0 | 70 | 38 | 42 | 44 | 70.2 | 110.5 | S. W. S. W. | do | do | |
| 4 | 771 | 820 | 84.6 | 10.6 | 10.5 | 66.0 | 77 | 65 | 54 | 669 | 74.4 | 89.5 | 16.0 | 16.0 | 60.0 | 68 | 32 | 33 | 41 | 70.5 | 112.2 | s. w. S. W. | do | do |
| 5 | 793 | 844 | 83.4 | 11.7 | 11.0 | 65.8 | 78 | 62 | 55 | 686 | 75.5 | 88.6 | 14.4 | 14.0 | 61.0 | 74 | 45 | 42 | 50 | 71.0 | 103.2 | S. W. S. W. | do | do |
| 6 | 782 | 879 | 85.0 | 9.3 | 9.3 | 63.0 | 78 | 62 | 56 | 724 | 76.0 | 88.2 | 12.4 | 11.1 | 68.8 | 77 | 52 | 54 | 54 | 70.0 | 112.8 | n. w. n. w. | do | cumuli. |
| 7 | 762 | 916 | 84.3 | 9.7 | 8.8 | 63.0 | 78 | 60 | 56 | 724 | 76.3 | 88.3 | 11.9 | 10.6 | 69.5 | 76 | 54 | 55 | 52 | 68.2 | 111.6 | n. w. n. w. | do | cumuli. |
| 8 | 808 | 862 | 82.4 | 6.4 | 8.2 | 71.5 | 81 | 72 | 70 | 673 | 77.0 | 89.0 | 11.7 | 9.3 | 71.0 | 77 | 55 | 57 | 54 | 70.3 | 102.8 | n. w. n. w. | hazy. | cum. fine. |
| 9 | 824 | 883 | 84.8 | 7.7 | 8.3 | 72.9 | 80 | 65 | 64 | 673 | 77.8 | 87.8 | 10.8 | 9.7 | 70.8 | 77 | 57 | 58 | 54 | 72.4 | 107.5 | o. n. w. | cir. stratus. | clear. |
| 10 | 836 | 883 | 84.8 | 7.7 | 8.3 | 71.8 | 86 | 67 | 66 | 713 | 77.0 | 90.3 | 10.9 | 11.1 | 73.0 | 78 | 50 | 58 | 56 | 72.5 | 105.7 | n. n. | cum. fine. | overcast. |
| 11 | 862 | 899 | 85.3 | 5.5 | 5.7 | 73.8 | 85 | 80 | 73 | 754 | 81.0 | 85.4 | 4.8 | 4.4 | 75.5 | 87 | 50 | 58 | 73 | 72.2 | 101.0 | n. n. | cir. stratus. | cumuli. |
| 12 | 848 | 902 | 84.9 | 4.7 | 5.4 | 73.6 | 85 | 80 | 70 | 725 | 84.3 | 89.0 | 11.5 | 10.7 | 71.0 | 77 | 54 | 56 | 54 | 72.0 | 113.0 | n. n. | clear. | clear. |
| 13 | 859 | 916 | 85.9 | 4.4 | 8.1 | 72.8 | 80 | 65 | 66 | 756 | 83.8 | 89.2 | 14.6 | 14.7 | 65.3 | 70 | 47 | 40 | 44 | 71.2 | 113.2 | n. w. n. w. | do | do |
| 14 | 831 | 936 | 85.1 | 9.7 | 10.0 | 69.0 | 77 | 69 | 60 | 779 | 84.8 | 89.2 | 17.0 | 16.8 | 62.0 | 68 | 37 | 42 | 41 | 70.0 | 107.4 | W. n. w. | do | do |
| 15 | 897 | 932 | 81.5 | 13.2 | 14.0 | 59.2 | 72 | 45 | 50 | 765 | 83.7 | 86.5 | 18.9 | 18.8 | 53.1 | 60 | 30 | 34 | 31 | 67.0 | 101.8 | N. n. | do | do |
| 16 | 878 | 909 | 78.5 | 13.1 | 13.6 | 54.6 | 70 | 42 | 46 | 758 | 80.8 | 85.4 | 19.1 | 19.2 | 50.2 | 58 | 27 | 32 | 29 | 59.8 | 103.2 | n. w. n. w. | do | do |
| 17 | 910 | 935 | 77.3 | 9.9 | 10.8 | 58.0 | 77 | 55 | 55 | 780 | 83.6 | 84.5 | 15.2 | 14.6 | 56.2 | 68 | 40 | 41 | 41 | 59.5 | 112.2 | n. w. n. w. | do | do |
| 18 | 924 | 960 | 80.1 | 10.3 | 10.5 | 61.5 | 76 | 55 | 52 | 780 | 87.4 | 84.5 | 14.5 | 13.1 | 57.5 | 70 | 42 | 42 | 44 | 61.3 | 106.8 | n. n. | do | do |
| 19 | 939 | 972 | 77.7 | 7.6 | 8.0 | 64.2 | 80 | 52 | 65 | 818 | 90.0 | 85.6 | 16.2 | 16.0 | 53.0 | 69 | 37 | 43 | 42 | 63.2 | 109.4 | n. w. n. n. | do | do |
| 20 | 951 | 906 | 73.0 | 8.9 | 8.5 | 64.1 | 78 | 60 | 62 | 840 | 91.2 | 84.7 | 15.5 | 14.2 | 57.0 | 71 | 33 | 43 | 45 | 61.2 | 109.2 | n. w. n. n. | do | do |
| 21 | 971 | 902 | 80.4 | 10.6 | 10.0 | 60.7 | 77 | 55 | 52 | 845 | 91.2 | 84.7 | 15.5 | 14.2 | 57.0 | 71 | 33 | 43 | 45 | 61.2 | 109.2 | o. n. | do | do |
| 22 | 993 | 925 | 78.8 | 8.4 | 8.7 | 63.5 | 78 | 60 | 63 | 852 | 90.7 | 84.1 | 15.1 | 14.3 | 57.0 | 69 | 40 | 42 | 41 | 61.4 | 112.1 | W. n. | do | do |
| 23 | 936 | 978 | 80.1 | 10.5 | 10.5 | 61.5 | 77 | 55 | 54 | 801 | 86.4 | 84.4 | 14.8 | 14.0 | 57.0 | 69 | 40 | 44 | 42 | 61.8 | 116.0 | W. n. | do | do |
| 24 | 916 | 947 | 80.1 | 9.7 | 10.1 | 62.8 | 77 | 57 | 57 | 788 | 85.2 | 84.3 | 14.9 | 13.6 | 59.2 | 70 | 40 | 44 | 44 | 61.8 | 111.0 | o. o. | do | do |
| 25 | 939 | 965 | 80.3 | 11.6 | 12.0 | 59.0 | 72 | 50 | 46 | 823 | 86.8 | 85.0 | 15.6 | 14.2 | 57.0 | 68 | 40 | 44 | 41 | 63.0 | 115.5 | n. w. o. | do | do |
| 26 | 924 | 960 | 79.9 | 12.6 | 12.8 | 58.0 | 72 | 46 | 46 | 823 | 85.4 | 84.1 | 16.8 | 15.2 | 57.0 | 68 | 34 | 42 | 41 | 58.7 | 111.0 | o. n. w. | do | do |
| 27 | 905 | 932 | 79.0 | 9.4 | 9.6 | 62.0 | 78 | 57 | 64 | 793 | 84.7 | 84.7 | 15.7 | 15.3 | 57.2 | 71 | 37 | 41 | 45 | 68.0 | 107.0 | o. n. w. | cirri. | do |
| 28 | 882 | 926 | 80.4 | 8.9 | 8.0 | 63.2 | 70 | 65 | 61 | 778 | 84.7 | 84.7 | 15.7 | 15.3 | 57.2 | 71 | 37 | 41 | 45 | 52.5 | 105.0 | n. w. n. w. | hazy change. | do |
| 29 | 863 | 927 | 78.8 | 8.1 | 7.6 | 63.5 | 67 | 63 | 63 | 758 | 84.8 | 84.2 | 11.9 | 12.0 | 57.3 | 76 | 52 | 40 | 52 | 64.2 | 103.2 | n. w. n. w. | cir. cumuli. | cloudy. |
| 30 | 866 | 926 | 79.9 | 8.2 | 8.6 | 63.0 | 73 | 62 | 56 | 780 | 83.6 | 84.2 | 11.8 | 11.0 | 57.0 | 74 | 54 | 66.0 | 54 | 66.0 | 106.6 | n. n. | cloudy. | showery. |
| 31 | 891 | 936 | 81.2 | 8.3 | 8.3 | 65.2 | 81 | 64 | 61 | 782 | 82.6 | 80.9 | 5.3 | 5.0 | 64.8 | 88 | 75 | 70 | 74 | 63.2 | 101.1 | n. e. s. w. | steady clear dry weather. | |
| Mean. | 29.470 | 29.511 | 81.8 | 9.1 | 9.3 | 66.0 | 77 | 60 | 55 | 29.752 | 29.815 | 86.3 | 13.6 | 12.9 | 63.1 | 72 | 46 | 48 | 48 | 66.4 | 108.6 | 0.18 | light northerly | |

New Barometer at 10 p. m. 0.039 and at 4 p. m. .063 lower than old standard. The columns of the bar hygrometer are this month entered from a new instrument, the old one being otherwise engaged.—This may cause trifling errors; as its scale has not yet been accurately verified.

